The OIL WEEKLY

A Journal for
Oil and Gas Producers and Field Men

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CHICAGO

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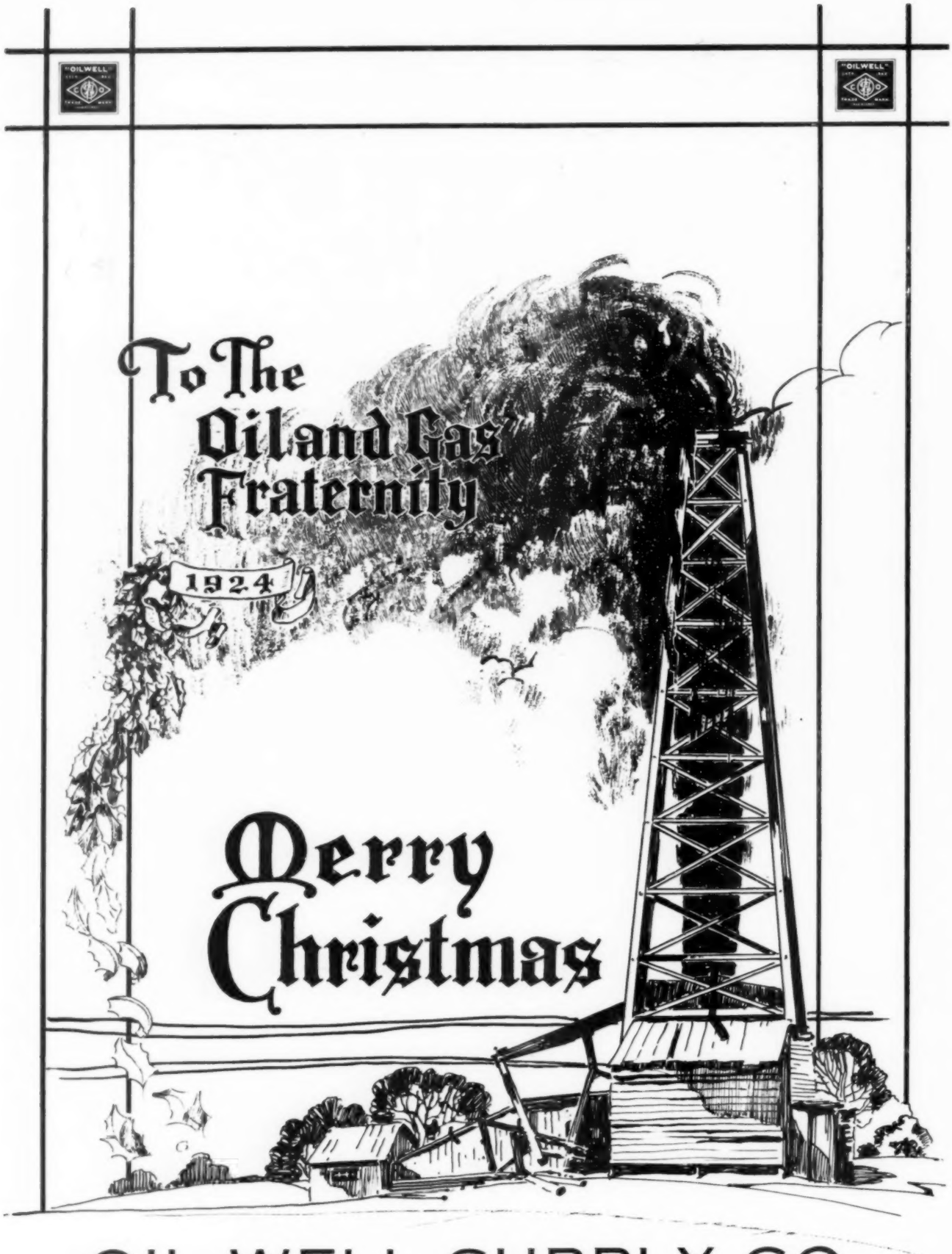
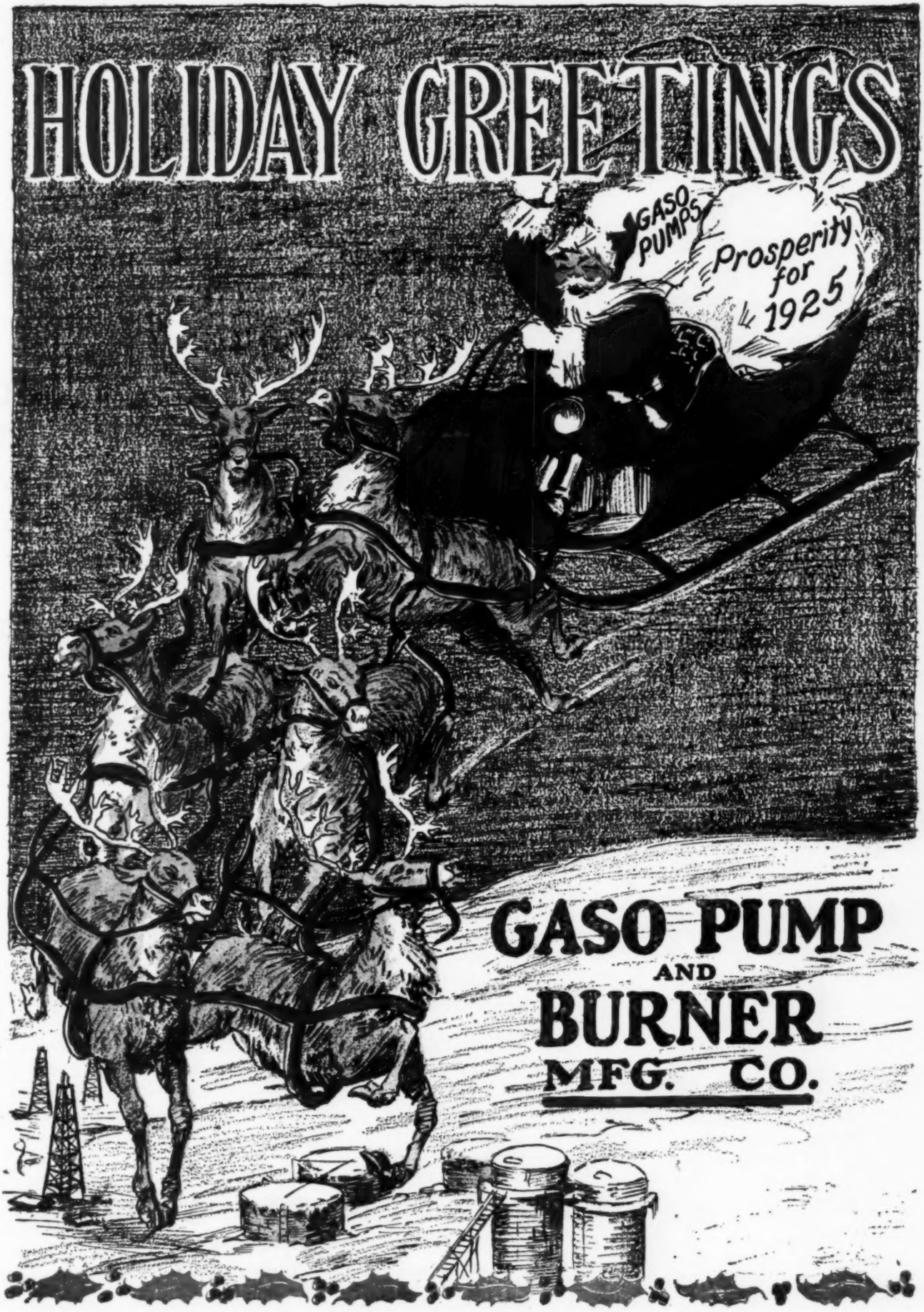


OIL WELL SUPPLY CO.

NEW YORK—LONDON—TAMPICO—PITTSBURGH, U.S.A.—SAN FRANCISCO—LOS ANGELES

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

THE OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 1716 Dallas Ave., Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.



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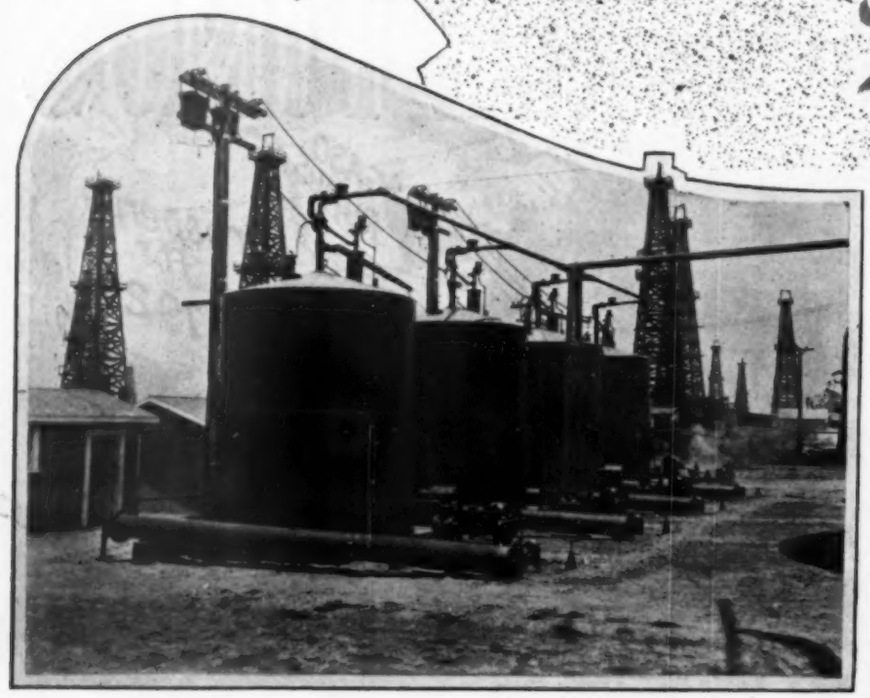


"PR"

ELECTRIC DEHYDRATORS

-For Treating Cut Oil

simplicity

Put your cut oil problems up to your official Oil Doctors.

Simplicity throughout is the dominating characteristic of "PR" Electric Dehydrators. There is nothing to get out of order or "gum up"—no mixing to begin with, no cleaning out at the end. When starting, just release the flow of crude oil to the treater and switch on the juice. To stop, just turn them off. Your pumper can operate several units in addition to his other duties.

"PR" Electric Dehydrators have put an end to the cut oil problem. They are now operating in many different fields, handling crudes with emulsion contents as high as 85% with the same uniform success, at extremely low cost. See them in operation—compare results and costs. They pay big dividends on the small amount involved.

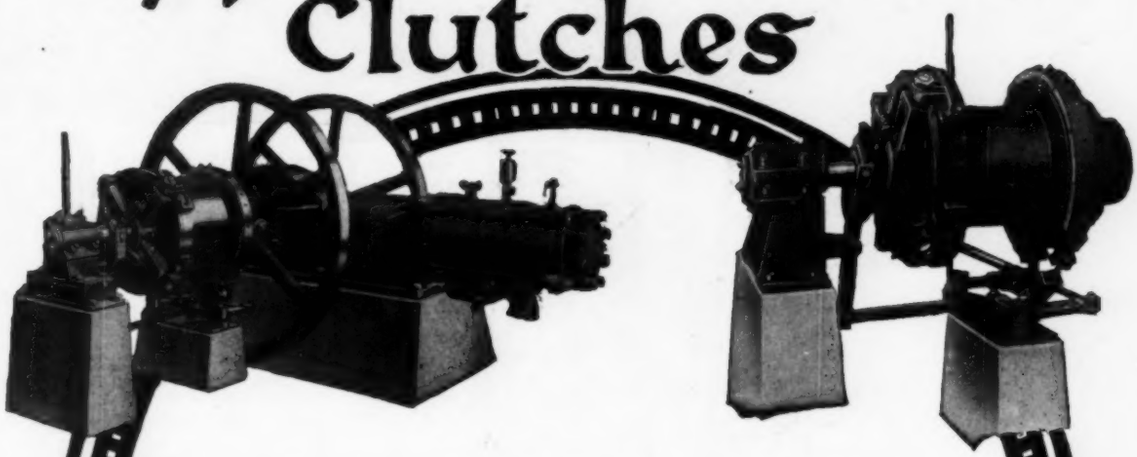
Petroleum Rectifying Company
of California

308 Union Oil Bldg., Los Angeles, California

Branch: 336 Humble Bldg., Houston, Texas

Say you saw it in The Oil Weekly

Franklin valveless Gas Engines and Type "S" Reversible Clutches



Until you have used the FRANKLIN you really do not know how powerful and how economical a gas engine can be. FRANKLINS, veterans of years of hard service are still daily on the job functioning as smoothly and efficiently as they did when first installed.

Fewer adjustments are necessary in the FRANKLIN; it is unusually economical in the use of lubricants; all bearings are adjustable and easily accessible.

Says one enthusiastic user " * * * it is the best one I have ever used; it holds perfectly and gives no trouble." That reputation was built on performance. The Type "S" Clutch is reliable, self-oiling, strongly made and was especially constructed for oil field use.

Write for our latest bulletin and price list

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FRANKLIN PENNA.

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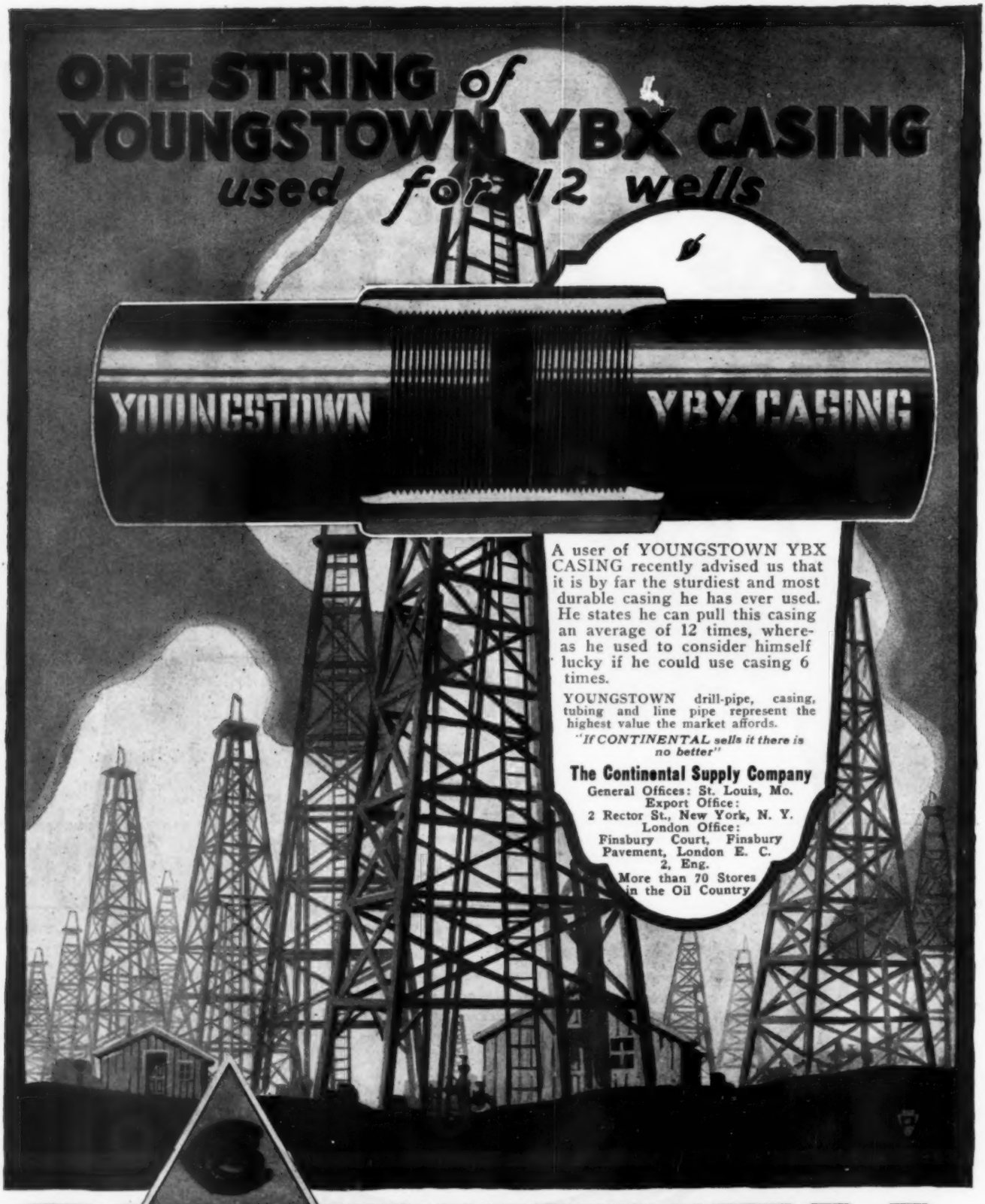
ONE STRING of
YOUNGSTOWN YBX CASING
used for 12 wells
YOUNGSTOWN YBX CASING
A user of YOUNGSTOWN YBX CASING recently advised us that it is by far the sturdiest and most durable casing he has ever used. He states he can pull this casing an average of 12 times, whereas he used to consider himself lucky if he could use casing 6 times.
YOUNGSTOWN drill-pipe, casing, tubing and line pipe represent the highest value the market affords.
"If CONTINENTAL sells it there is no better"
The Continental Supply Company
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More than 70 Stores in the Oil Country
CONTINENTAL

Say you saw it in The Oil Weekly

Science Takes the Place of Chance in Oil Production

Talk to any average outsider, mention oil, and what thought enters his mind?

A spirit of gamble—big chances—huge losses—great gains.

—a natural result of the days when oil prospecting WAS mostly a gamble.

But gradually, as the influence of science in oil producing increases, the element of chance is reduced.

No longer is the wildcat sunk according to hunches or accidents. Before drilling is begun, the geologist with his studies of paleontology, stratigraphy and structural geology, gives information that makes the presence of oil at least a possibility.

Now, if science is necessary in determining where wells should be drilled, certainly it is just as necessary to let science SAFEGUARD PRODUCTION after a well has been found to hold oil.

Can you imagine the CHANCE an operator takes who spends $10,000 to $125,000 to drill a well, finds it a producer, and then to save a comparatively small sum runs the risk of losing a great deal of his production, bringing in excessive cut oil and B.S., increasing his costs and even KILLING HIS WELL?

This is exactly what any operator does who fails to COMPLETE his well by properly cementing it.

Think over the wells you know about yourself. How many millions of dollars are lost every year because of CASING COLLAPSE—entirely avoidable by proper cementing? How much is lost through CORROSION OF CASING, likewise preventable by a tight jacket of cement? How many expensive, sometimes even ruinous water troubles are caused by upper water which could have been kept out by scientific cementing? How many wells long since killed could still be profitable producers if water had been excluded by an everlasting lining of cement?

Scientific oil well cementing is not an "accessory" in the modern well. It is a necessity. It is production insurance—an eternal safeguard against the most serious hazards that can befall a well.

No well, cable tool or rotary, is properly completed that is not properly cemented. If you believe in insurance, you believe in Halliburton Oil Well Cementing. Ask for details.

HALLIBURTON OIL WELL CEMENTING CO., DUNCAN, OKLA.

Equipment Available for all Fields

HALLIBURTON

Scientific Oil Well Cementing

BYERS PIPE

GENUINE WROUGHT IRON

—and now *for* Better Tubing

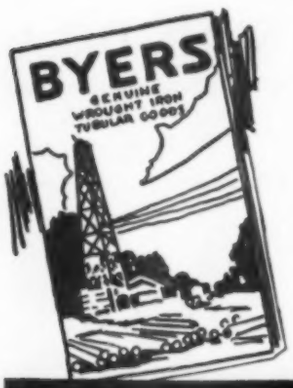
CORROSION and crystallization are the two arch enemies of tubing. Tubing failures are costing operators millions of dollars annually. Every operator readily recognizes the fact that any reasonable price paid in order to get longer lasting tubing is a good investment. Railroad companies from long experience in operation of rolling stock have found that no metal resists rust and constant vibration so long and so successfully as genuine wrought iron. Observant oil operators are gradually finding the same to be true as regards wrought iron tubing.

The fibrous metal of Byers wrought iron resembles a wire cable in toughness. Its incorporation of siliceous slag protects it against rust and crystallization. This slag incorporation is entirely absent in ordinary "wrought" pipe. Byers tubing is guaranteed to be made of genuine wrought iron, of the highest quality.

Ask for further information

A. M. BYERS COMPANY, Pittsburgh, Pa.

Established 1864



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Tubing • Casing • Drill Pipe • Line Pipe

At Luling, Texas

The Smith Oil and Gas Separator (Type 1) on the McKean Lease at Luling, Texas.

It has successfully handled the production of this lease.

SMITH OIL AND GAS SEPARATOR

Type 3 Patented

The Smith Separator is made in the following sizes:

Type 10—Capacity 25,000 bbls. oil, 100 million cu. ft. gas.

Type 1—Capacity 5,000 bbls. oil, 10 million cu. ft. gas.

Type 2—Capacity 2,000 bbls. oil, 5 million cu. ft. gas.

Type 3—Capacity 500 bbls. oil, 1 million cu. ft. gas.

Type 1 or 2 Patented

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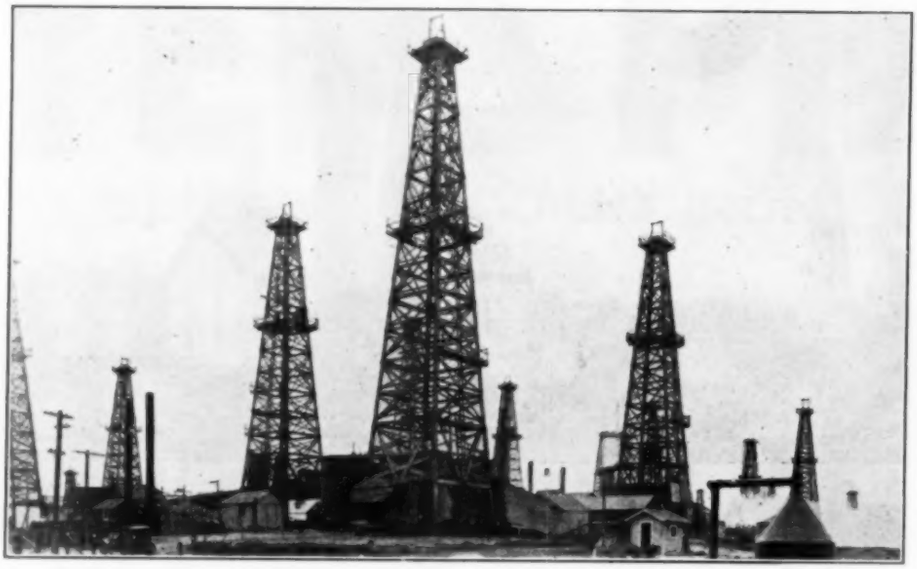

The wells on the Bartholomoe Oil Corp. Lease, Signal Hill, Long Beach, Calif., are among those that have Chester Steel Casing.

SIGNAL HILL
Knows South Chester

Here, there, and everywhere over the California, as well as other, oil fields you will find Chester Steel Casing rendering excellent service.

South Chester specializes on Casing for deep well drilling and records prove the value to the oil producer of such specialization.

Steel specially made for the oil country—that's the first factor—steel that resists crystallization to the limit—steel with higher tensile strength and greater elasticity—Chester Casing.

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Also makers of Wrought Iron Casing from 4½" to 12½"

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CHESTER
STEEL CASING

SPECIALISTS IN CASING FOR DEEP WELL DRILLING

"Our Experience—*and* Yours"

in regard to Steel Band and Calf Wheels and Band Wheel Tugs has probably been different

But ours should help yours

Steel Band Wheel

Made in standard diameters, faced for standard width belting. Steel Angle Arms, securely riveted to circles of Steel Cants and bolted to a Shaft Hub, eliminates the need of band wheel flanges. Furnished with metal Tug Pulley when desired.

WE WERE three years perfecting the items listed. We studied requirements and undertook to fill them, not in the manner easiest or least expensive for us, but in the manner most satisfactory to the consumer.

Therefore, if your experience has not been satisfactory—try the results of ours. We have paid the bill and offer to share the benefit with you. Try us.

The Parkersburg reputation is behind these Wheels, reputation for the best—in design, construction, delivery, freedom from experiment and desire to sell Quality and Service only.

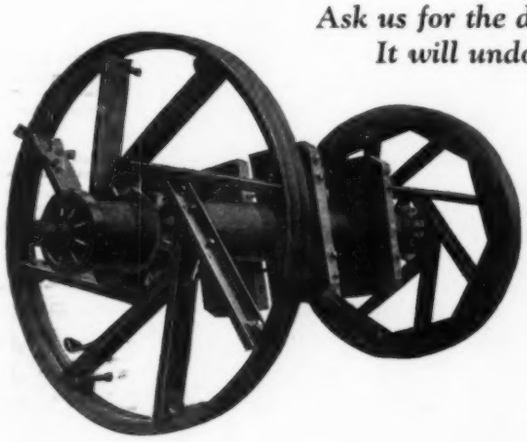
This reputation has made Parkersburg Products outstanding over a period of 27 years.

The Steel Wheels are no exception.

They stand out in a class by themselves.

See them in the fields—try them on your rigs.

Ask us for the details of our experience. It will undoubtedly help yours.



Steel Bull Wheel

Positive traction given by "V"-Grooved Tug Rim. Brake Cants securely clamped and bolted between two rings of steel Cants—easily replaced when worn. Arms attached to Tug and Brake Wheels for quick assembly in the field.

Steel Calf Wheel

Heavy bracing angles extend from each arm to each tug rim bolt. Tug rim is held firm and braced solid. It can't be pulled loose or out of line. Patented construction of the Shaft Hub insures a true-running, well-balanced wheel. Quick to assemble, long lasting.

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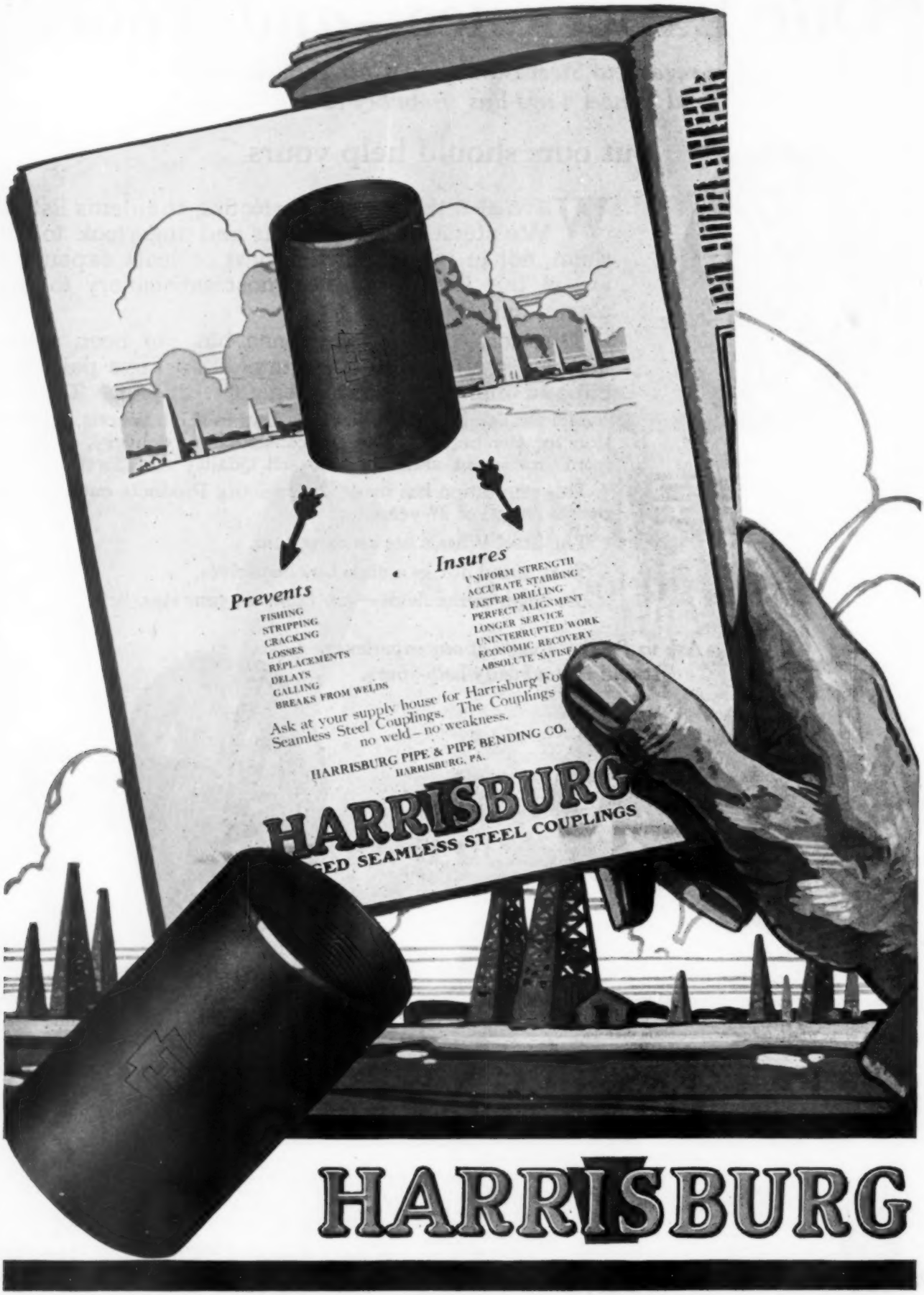

Say you saw it in The Oil Weekly

They Keep Faith With the Advertising

"For years I've read Harrisburg Forged Seamless Steel Coupling advertisements in the Oil Weekly and other leading Oil Field Publications. For years I've used these very couplings in the drilling of my oil wells.

"Day after day—often under mighty trying circumstances—I've proved in actual practice the truth of every printed statement the Company ever made.

"They say these couplings won't gall, no matter how severe the strain. I **know** they won't! I've proved that I can 'make them up' as often as I like, without a sign of stripping. They have a perfect thread and taper—and won't go out of shape. And regardless of abrasion on the outside surface I've never seen a 'Harrisburg' give way.' And I've yet to find one to develop leaks."

Harrisburg Forged Seamless Steel Couplings have no weld—no weak spot. Their uniform dependability and acknowledged superiorities have established new oil field records for service and economy.

HARRISBURG PIPE & PIPE BENDING CO.
HARRISBURG, PA.

Distributors

Harrisburg Pipe & Pipe Bending Co. of Texas, Inc.,
Houston, Texas

Goddard-Thomas Manufacturing Company,
Tulsa, Oklahoma

Superior Tube Company
Tulsa, Oklahoma

Forged Seamless Steel Couplings

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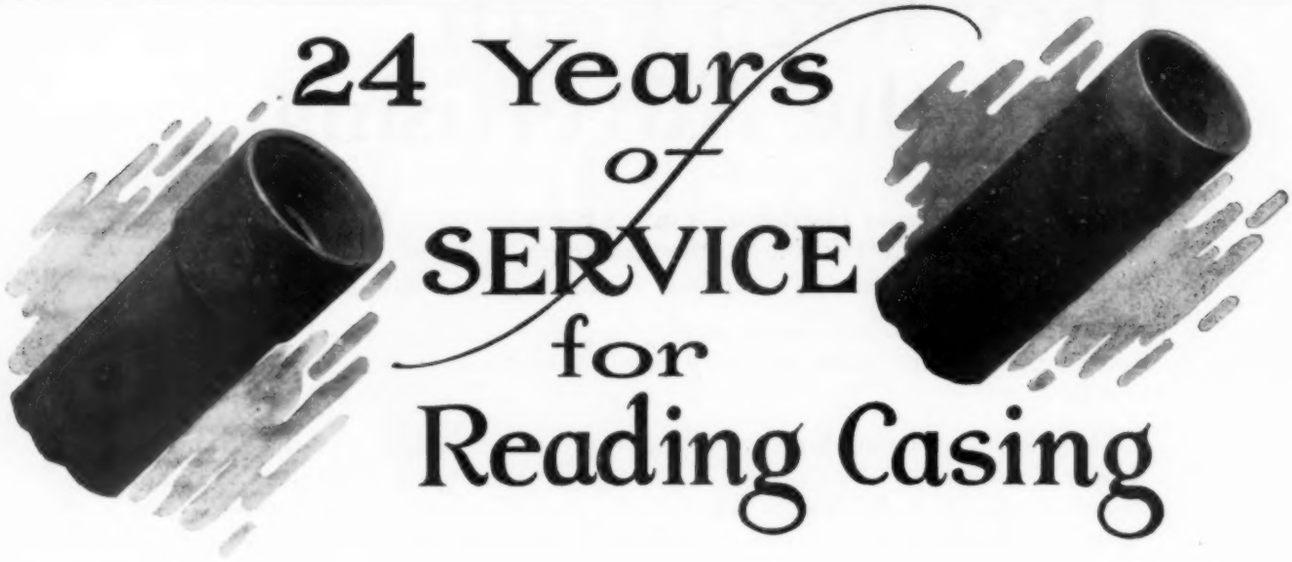
24 Years of SERVICE for Reading Casing



Thread and coupling ends of 4¼"—9½ lb. Casing taken from the Norman No. 1 Well of Neodesha, Kansas, located on the West bank of the Verdigris River.

WHEN the old Norman No. 1 Well was discovered on the Eastern side of Neodesha, Kansas, a string of drilling tools and other equipment were purchased to bring it in. Part of the equipment was 4¼"—9½ lb. Reading Casing and was put in service during the year 1893.

When the Well was abandoned in 1917 this same Reading Casing was removed and found to be in good condition, showing very little evidence of its long service.

This is not remarkable when you consider the high resistance to corrosion Reading Genuine Wrought Iron Pipe has. Note the condition of the threads of both Casing and Coupling. This is just another instance where the purchaser has learned from experience that an investment in Reading tubular goods has brought him greater profit and saving of time, than an investment in cheaper material.

READING IRON COMPANY
READING, PA.
World's Largest Makers of Genuine Wrought Iron Pipe
OIL WELL SUPPLY COMPANY, Distributors
Inquire at any of the 100 branches

READING PIPE
GENUINE WROUGHT IRON

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AXELSON
Working Barrels
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REID Engines
and Powers

RATIGAN
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Sure Grips, etc.

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and Power Pumps

DREADNAUGHT
Rotary
Equipment

DONOVAN
Boilers

ROEBLING
Wire Lines

F-R SERVICE
Rubber Belting

JONES & LAUGHLIN
Tubular Goods

Little but Mighty

THERE are many plants in the world where through the instrumentality of steam tens of thousands of horse power puts its shoulder to the wheel in mighty effort.

As compared with such an installation of boilers an oil country Donovan looks rather impotent. Any oil country boiler does.

But the Donovan isn't—ah, no! No oil sand lies so deep that the paraphernalia of the driller isn't driven with relentless energy by the redoubtable if portable Donovan.

It is built to the ASME Code. It fires readily. It holds steam tenaciously. It lasts through the use and abuse of many operations in many fields. It's to oil country work what the burro is to mountain climbing—there simply is no substitute.

Complete Cable Tool Equipment—F. R. Electric Light Plants — Warren Steam Engines — Johns-Manville Packings—Carbic Oxy-Acetylene Welding and Cutting Apparatus, etc.

The Frick-Reid Supply Co.

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

In Oil Country Equipment—the most HUMAN organization in America

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Now Made in Size to Fit 12 and 12½ inch Casings

MADE OF STEEL THROUGHOUT

To satisfy the demand for a larger size of the C. I. W. Blowout Preventer, we have added to our line a 12" and 12½" size—a bigger, better, stronger and safer preventer than ever.

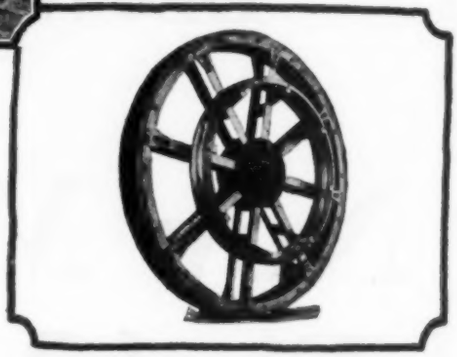
Write for prices and specifications

CAMERON IRON WORKS

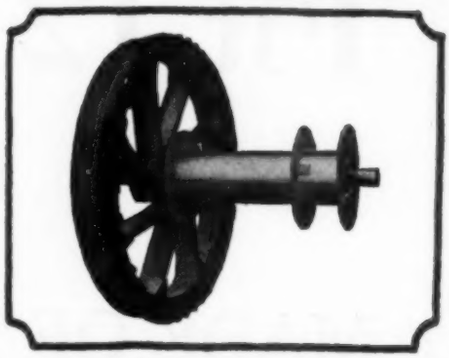
HOUSTON, TEXAS

Say you saw it in The Oil Weekly

It was Alright —Once!

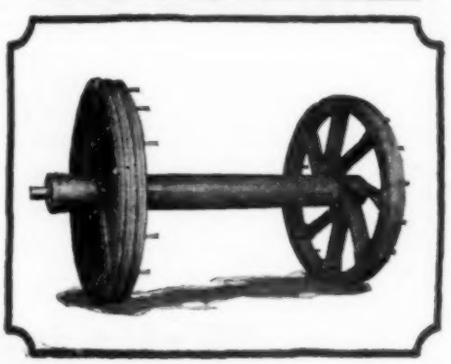


LITTERING up the open spaces of every producing field you will find these relics of the wooden age. Broken down bull, band and calf wheels. Good enough when fortunes were being made with the bringing in of every well. A costly luxury today when the law of supply and demand is hammering down the price of oil, and every penny spent narrows the gap between profit and loss.



This is the age of steel! Wise operators are standardizing on INTERNATIONAL "IDECO" All-Steel Equipment. Complete Steel Rigs—from mud sill to gin pole. They solve the problem of successful, economic production.

The salvage value of an INTERNATIONAL "IDECO" Derrick and all-steel Rig (Galvanized) is 100%. There just isn't any wear out to them.



Write for full information on INTERNATIONAL "IDECO" All Steel (Galvanized) Derricks, Wheels and Complete Equipment

The International Derrick & Equipment Co.

Columbus, Ohio **Los Angeles, Cal.**

Branches and Warehouses:

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INTERNATIONAL STEEL DERRICKS (GALVANIZED)

The Largest Company Devoted Exclusively to the Manufacture of Steel (Galvanized) Equipment for the Oil, Gas and Artesian Industries

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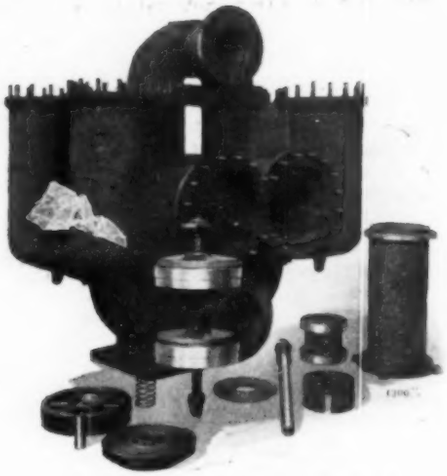
*Printed in one or more issues of each month.

CHESTER TYPE TRANSIT PUMPS



Chester Type Fluid End Disassembled.

Will handle any crude; differing from other pumps in the ability to handle the heaviest crudes efficiently. See Item 2.

1. **See how simple and sturdy it is made.**
   Consider the small list of "Spares" necessary.
2. **See the large valves and fluid passages.**
   Percentage of Valve Area very high. The fluid end illustrated has 130 per cent of the piston area.
3. **See the accessibility of all parts.**
   Removing the bottom cap nut will permit each valve stem with its suction and discharge valve to be easily removed through the top for inspection or repair.

Engineers Interested are Invited to Communicate With Us.

NATIONAL TRANSIT
Pump & Machine Company
OIL CITY, PA.

District Offices: New York, Philadelphia, Cleveland, Pittsburgh, Houston, Tulsa, Denver.

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THE OIL WEEKLY

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SPENCER W. ROBINSON, *Editor*

Vol. 35 **FRIDAY, DECEMBER 19, 1924** **No. 13**

Public Relations

THE decision of directors of the American Petroleum Institute to establish a committee of Public Relations, represents a changing attitude within the industry. Even yet there are men, and men of long experience, who doubt the wisdom setting about to win the favor of a public that is ever willing to believe evil.

The opinion of the men of this school is:

"Having done no wrong, why offer a defense."

That is sound reasoning. The criminal has the benefit of innocence, until the verdict finds otherwise. Why then should an industry arise to defend itself, when its record bears no more stain than that of any other industry?

In deciding to defend a record they know to be worthy, executives of oil companies are taking a step that has been found beneficial to other industries.

It has been put this way:

"The attorneys of standing are responsible when shyster lawyers filch a client."

And the attorney of standing, who has arisen to challenge this statement has been met with this:

"Had you and others of your standing correctly informed the public of what you could offer, the misused client never would have sought the shyster lawyer."

Misapprehension arises from numerous sources. Ignorance is responsible for a share. Statements made with the intent to mislead contribute a share. False reasoning offers a share.

Now the attorney of standing, the business executive of good repute and the laborer who gives full effort to his time, have no part in misleading a public concerning industry or endeavor. So the position that defense is unjust when no offense has been committed has its sound basis.

But just as the railroads, the packing industry and the public utilities have taken this step ahead of sound justice to defend themseves, although knowing their business honest, the oil industry has made its first move in that direction.

Its effect must await the formulation of methods and their execution. That the industry can profit from better relations with the public is true.

If it were generally known that the capital invested in the petroleum industry paid no greater returns than that invested in any other phase of business, men and women would be less inclined to listen to the promises of the promoter.

The cost of placing a gallon of gasoline in the pump of a filling station would stop much of the complaint of its price.

Thousands of persons believe that oil wells flow hundreds and even thousands of barrels daily for year after year. A statement that the 75,000 oil wells of Pennsylvania give but 10 gallons of crude daily for each well, should be a revelation to the thousands of misinformed.

Facts presented in simple words will prove a benefit to the petroleum industry. So this change of attitude within the ranks of its executives is a hopeful sign.

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The OIL WEEKLY wants only such subscribers as are engaged in the oil producing or pipe line business, or sub-branches of the producing and pipe line business. It has no desire for investor circulation, and it reserves the right and will exercise the right to reject subscriptions coming from persons whose interest in the oil industry is through the purchase of oil stock.

R. L. DUDLEY, Publisher.

TEXAS QUARTERLY PRODUCTION REPORT

Covering Third Quarter of 1924

Special Supplement

—to—

THE OIL WEEKLY

Issue of December 19th, 1924

VALUABLE INFORMATION

The accompanying list gives the names of company, address, gross production and value of oil for all companies making returns to the State of Texas for the third quarter of 1924. This is one of the most valuable lists of its kind obtainable and is a regular service to both readers and advertisers of The OIL WEEKLY.

TEN LEADING COMPANIES IN TEXAS

Companies—	Third Quarter 1924	Second Quarter 1924	First Quarter 1924	Fourth Quarter 1923	Third Quarter 1923
Humble Oil & Refining Company	4,128,070	4,502,808	4,328,893	4,022,993	5,243,749
The Texas Company	2,570,089	2,624,810	2,449,191	3,219,397	2,627,666
Gulf Production Company	2,423,379	2,841,713	3,270,183	3,976,439	3,293,161
United North & South Oil Company	2,452,287	2,304,443	1,026,606	844,024	.....
Pure Oil Company	2,035,510	2,205,034	2,747,157	3,245,278	4,321,628
Magnolia Petroleum Company	1,493,439	1,607,897	1,462,278	1,763,783	2,079,722
Sun Oil Company	1,080,875	.....	432,819	530,386	.....
Republic Producing Company	779,981	906,898	1,187,902	802,904	.....
Atlantic Oil Producing Company	689,448	737,437	646,175	1,421,103	805,012
Simms Oil Company	588,816	703,129	863,119	546,631	.....

Total All Companies:

Third Quarter, 1924	32,221,650	Fourth Qarter, 1923	41,839,186
Second Quarter, 1924	33,175,937	Third Quarter, 1923	23,403,785
First Quarter, 1924	31,328,240	Value Third Quarter, 1924	$44,551,101

Tax Returns Show Texas Production Off

Output for third quarter of 1924 nearly a million barrels less than previous three months

Following a trend of decreasing production which started late in the second quarter of this year, total Texas production for the third quarter dropped about 954,000 barrels below the amount shown for the second quarter. Total production for the quarter ending September 30, was 32,221,650 barrels as compared with 33,175,937 barrels for the three months ending June 31.

For the fifth consecutive time the Humble Oil and Refining Company led all other Texas companies in the total number of barrels of oil produced. This company showed 4,128,070 barrels for the third quarter, 400,000 barrels decrease from the second quarter.

The only changes in the list of the ten leading companies were the swapping of places by the Gulf Production Company and The Texas Company, the Gulf Company dropping from second to third place, the Sun Company reappearing on the list, and the omission of the Texhoma Oil & Refining Company which appeared last time. After showing a production of slightly more than 432,000 barrels during the first quarter, the Sun Company came back during the third with 1,080,875 barrels. This brought the company up from the last place in the list during the first quarter to seventh for the third.

The following list shows the companies reporting to the state their gross production for the third quarter of 1924 for taxation purposes, which arrived too late for publication in the last issue of The OIL WEEKLY:

NAME AND ADDRESS OF OIL COMPANIES AND INDIVIDUALS WHO HAVE FILED STATEMENTS AND PAID GROSS RECEIPT TAXES FOR THE QUARTER ENDING SEPT. 30, 1924.

Name	Address	Barrels	Value
Aaronson, M. L.,	Tulsa, Okla.	147	112
A. B. C. Oil Company,	Electra	1,580	2,382
Abercrombie, J. S.,	Houston	3,560	5,110
Acorn Oil Company,	Beaumont	4,122	5,969
Ada Belle Oil Co.,	Batson	31,755	46,396
Adams & Oldham,	Beaumont	939	1,336
Adamson Oil & Gas Co.,	Mexia	.....	3,004
Admiral Oil Company,	Fort Worth	487	520
Agate, A. L., Trustee,	Eastland	76	133
Agate, A. L., Trustee,	Eastland	521	651
Alanso Jr., Oil Producer,	Laredo	12,678	9,382
Alice Oil Company,	Fort Worth	298	381
All-American Oil & Gas Co.,	Oklahoma City, Okla.	112	178
Alworth, E. M.,	Laredo	10,826	8,046
Amster, N. L.,	Ardmore, Okla.	13,668	20,060
American Refining Co.,	Wichita Falls	32,163	47,324
American Texas Oil Co.,	San Antonio	647	696
Amicable Life Ins. Co.,	Waco	504	630
Anderson, E. J.,	Wichita Falls	4,436	7,364
Andrews Petroleum Corp.,	New York City	8,293	6,614
Andrews, W. R. et al,	Breckenridge	9,876	13,804
Andrews & Arnold,	Wichita Falls	100	145
Apple-Brandeberry Oil Co.,	Wichita Falls	12,175	22,164
Apple-Brandeberry Oil Co.,	Wichita Falls	20,078	30,903
Appleman, H.,	Tulsa, Okla.	111	176
Arkansas Fuel Oil Co.,	Pittsburgh, Pa.	6,925	10,570
Arkmo Oil Company,	Somerset	2,598	2,867
Arnold and Frazier,	Putman	435	641
Arnold, M. J.,	San Antonio	585	670
Ascot Company,	Wichita Falls	1,960	2,618
Ashe Syndicate,	Fort Worth	515	885
Associated Oil Co.,	San Francisco, Cal.	27,484	24,933
Associated Petroleum Co.,	Fort Worth	20,361	29,009
Atlantic Oil Producing Co.,	Dallas	689,448	937,302
Astec Petroleum Co.,	San Antonio	897	676
Bailey, K. E.,	Tulsa, Okla.	393	352
Bailey and McClure,	Wichita Falls	1,250	1,644
Baggett & House,	Cameron	2,675	3,521
Baker Oil Co., Inc.,	Houston	5,843	8,764
Baldwin, F. C., et al,	Fort Worth	7,919	13,141
Barkley, T. G.,	Sour Lake	1,780	2,416
Barkley & Crotty,	Ranger	18,719	31,241
Barkley & Meadows,	Wichita Falls	67,221	110,332
Barkley & Meadows,	Corsicana	65,030	92,301
Barnhart & Easton,	Wichita Falls	3,532	4,670
Barrington, A. L.,	Brownwood	282	312
Bartlett, Wm., Co.,	Electra	873	1,134
Bashara, M. J.,	Wichita Falls	9,210	14,403
Basham, C. E.,	Wichita Falls	169	270
Bass & Dillard,	Wichita Falls	25,111	35,755
Bass & Dillard,	Wichita Falls	3,034	4,581
Bashara & Unice by Geo. F. Bashara,	Waco	288	360
Bay Oil & Gas Co.,	Mirando City	3,426	2,722
Beggs, George, Strip,	Fort Worth	5,207	10,104
Bennett, Mills,	Houston	90,461	113,710
Benson, W. L., & Co. and Empire Gas & Fuel Co.,	Robinson, Ill	1,958	3,097
Benton, Mrs. B. Y.,	Uvalde	1,401	2,021
Beren, J.,	Dallas	111	150
Beren, J., (June 30, 1924),	Dallas	159	284
Bexata Oil Company,	San Antonio	3,305	4,108
Big 4 Consolidated Oil Co.,	El Paso	494	859
Big Lake Oil Co.,	Pittsburgh, Pa.	262,047	227,969
Biggs Oil & Gas Co.,	McKinney	884	1,397
Big State Oil Corporation,	Dallas	1,324	1,324
Bell Burk Oil Company,	Waco	775	1,247
Benkendorfer, J. P.,	San Antonio	1,500	1,982
Bernstein, Eli D.,	Oklahoma City, Okla.	386	570
Biel, Wm. A,	Von Ormy	48	62
Big 5 Oil Company,	Cisco	3,145	4,618
Black Cat Oil Company,	Electra	3,877	5,091
Blakely Company,	Houston	25,745	37,240
Bleakley & Kinnison,	Wichita Falls	2,217	3,507
Blevins, Rosa E.,	Houston	2,165	2,999
Bliss & Wetherbee,	Shreveport, La.	7,226	11,876
Blue Bird Oil Corp.,	Houston	10,649	13,377
Bluebonnet Oil Co.,	Wichita Falls	1,498	1,993
Blue Bonnet Petroleum Corp.,	San Antonio	3,163	3,920
Boller, C. W.,	Wichita Falls	4,338	5,907
Bobo, W. T., Trustee,	Eastland	441	614

Name	Address	Barrels	Value
Bonchill Company, Wichita Falls		4,415	6,677
Borealis Oil Co., Dallas		4,876	7,251
Boyd Oil Company, Dallas		201,737	312,535
Bradstreet, W. H. & Co., Wichita Falls		811	1,189
Bradley Oil Company, Wichita Falls		67,067	105,460
Bremen, A. J., Putman		4,265	6,482
Bridwell & Palmer, Wichita Falls		4,693	5,867
Bridwell, Heydrick & Palmer, Wichita Falls		3,727	3,727
Bridwell, Heydrick Trustee, Wichita Falls		31,060	43,832
Bright, Samuel, Wichita Falls		2,107	2,634
Brinkley Producing & Ref. Co., Pittsburgh, Pa.		1,036	1,619
Brittan & Ritchie, Strawn		6,691	9,842
Brothers, L. F., et al, Desdemona		13,621	22,460
Brothers Oil Co., Inc., Tulsa, Okla.		11,750	17,431
Brown, Geo. I., San Antonio		3,096	3,887
Brown & Company, Inc., Breckenridge		1,688	2,138
Brown, Mrs. Carrie L., et al, Orange		28,943	42,829
Brown, Dr. E. W. Estate, Orange		13,938	23,336
Brownwood Producing & Ref. Co., Brownwood		2,958	4,728
Bruce, H. J., Wichita Falls		2,235	3,013
Bryan Oil Corporation, Wichita Falls		3,430	6,346
Buchanan, J. H., Nacogdoches		25	51
Buchanan, S. R., Batson		18,743	29,132
Buckeye Development Co., Columbus, Ohio		310	432
Buffalo Texas Oil Co., Buffalo, N. Y.		3,401	5,083
Bullington, Lee, Pendleton & Hammon, Wichita Falls		13,167	17,776
Burk Burnet Jr., Oil Co., Fort Worth		814	1,076
Burkburnett Production Trust, Wichita Falls		2,656	4,338
Burk Venus Oil Co., Dallas		223	355
Burley Oil Co., Humble		5,863	8,501
Burr, J. K., San Antonio		843	1,023
Bynum, W. W., Minerva		2,963	3,317
Cal-Bro Oil Syndicate, Tyrone, N. Mex.		7,881	10,880
Caldwell Guadalupe Pick-up Stations, Luling		9,326	8,478
Caldwell Oil Co., Gonzales		29,380	27,632
California Company, Colorado		87,894	85,893
Caltex Oil Company, Spokane, Wash.		1,122	1,312
Camp Oil & Gas Co., Wichita Falls		67,671	100,346
Canyon Oil & Gas Co. Inc., Cross Plains		7,915	10,827
Carnahan Producing & Ref. Co., Canton, Ohio		27,678	29,062
Carter, Roy I., Wichita Falls		23,323	28,385
Carteret Oil Co., Jersey City, N. J.		3,319	4,149
Carey & Yarborough, Wichita Falls		4,703	6,489
Caruthers Company, San Antonio		2,790	3,265
Cassoday Oil Corporation, Ft. Worth		1,082	1,408
Cavin & Lowry, Olney		5,645	7,539
Cavitt, W. H., Batson		756	1,168
Chapman, P. A. Jr., Eastland		1,902	2,546
Champlin & Winkler, Inc., Holdenville, Okla.		216	353
Chandler, C. G., San Antonio		22,614	16,972
Chapman, P. A. Estate, Waxahachie		100,297	142,524
Chappell & Hadcock, Putman		359	506
Chenault, N. B., Wichita Falls		808	1,266
Chenault & Lea, Wichita Falls		82,461	109,756
Cheney & Anzac Oil Corp., Graham		4,273	7,571
Christie, Geo., Moran		1,721	2,656
Christie Brothers, Wichita Falls		11,752	19,405
Cintex Petroluem Syndicate, Laredo		30,746	22,744
Cisco Drilling Co., Dallas		5,029	7,285
Clara Oil & Production Co., Beaumont		479	768
Clark, Arthur, Wichita Falls		7,867	14,536
Clark, N. F., Wichita Falls		972	1,341
Clark, R. R., Wichita Falls		7,978	12,337
Clark, Harbin & Baldridge, Wichita Falls		51,057	66,534
Clem Oil Company, Houston		1,177	1,672
Cline Oil Company, Wichita Falls		6,571	9,199
Cline, W. D., et al, Wichita Falls		653	849
Clough, Charles E., Wichita Falls		1,375	2,055
Cohen, Aaron, Wichita Falls		17,397	24,965
Cohen & Lebow Trust, Wichita Falls		1,462	2,320
Cochard & Williams, Moran		342	508
Comet Petroleum Co., Ft. Worth		7,824	11,502
Commercial Pet. Co., Wichita Falls		7,026	10,171
Commercial Pet. Co., Brownwood		749	811
Connellee Oil Co., Eastland		194	438
Conley Delaney & Dyar Bros., Ranger		2,446	3,909
Conner Son & Cloughley, Gotebo, Okla.		9,112	13,992
Connor, F. T., Ft. Worth		19,343	26,681
Consolidated Oil Co. of Texas, Wichita Falls		8,283	11,106
Conway Bros. & Gilman, Cross Plains (Dec. 31, 1923)		1,330	1,662
Conway Bros. & Gilman, Cross Plains (Sep. 30, 1924)		11,474	16,210
Conway Bros. & Gilman, Cross Plains (Mar. 31, 1924)		2,311	4,343
Conway Bros. & Gilman Cross Plains (June 30, 1924)		3,444	7,749
Coppock & Coleman, Successors to J. H. Cotton & Co., Iowa Park		2,659	3,647
Cornhusker Oil Co., Mirando City		19,073	14,348
Cornucopia Oil Co., Fort Worth		446	672
Corona Pet. Co., Jersey City, N. J.		4,368	6,614
Corsicana Oil & Ref. Co., Corsicana		7,627	6,954
Cosa Oil Co., Dallas		2,325	3,562
Cosden Oil & Gas Co., Tulsa, Okla.		39,339	61,852
Cowling & Newell Oil Co., Wichita Falls		970	1,260
Cox, Boyd and Mitchell, Wichita Falls		327	451
Cox, Edwin B., Ardmore, Okla.		7,011	10,418
Coyle-Concord Oil Co., San Antonio		4,005	4,662
Coyle-Concord Oil Co., San Antonio		5,058	6,688
Name	Address	Barrels	Value
Cremer & Martin, San Diego, Calif.		315	497
Critton Bros. & Lacey, Caddo		51,496	80,396
Crosbie, J. E., Tulsa, Okla.		886	1,262
Crosbie, T. S., San Antonio		3,462	5,285
Crown Oil & Ref. Co., Houston		28,126	41,651
Crowell, L. R., Dallas		189	341
Crystal Oil Corp. of Texas, Denver, Colo.		3,286	5,199
Culbertson Company, Wichita Falls		16,898	25,135
Dale-Knots Oil Co., Wichita Falls		399	506
Dale Oil Corp., Wichita Falls		53,535	78,492
Dallas-Bradford Oil Co., Dallas		937	1,430
Danciger, Joe and M. O., Wichita Falls		70,760	63,607
Daniel, S. B., Wichita Falls		1,668	2,154
Darby Petroleum Corp. of New York, Tulsa, Okla.		1,233	1,858
Davis, L. R., Tulsa, Okla.		215	325
Davis, Thomas, Somerset		1,099	1,276
Dayton Oil Co., Dayton		3,731	4,723
Deep Sands Oil & Gas Co., Corsicana		324	324
Dennis, J. S., Moran		6,702	9,588
Derby Oil Company, Dallas		54,270	77,363
Deutser, B., Trustee, Beaumont		871	1,395
Developers Oil & Gas Co., Wichita Falls		935	1,168
Dibble Oil Co., San Antonio		4,148	3,849
Dibble Oil Co., San Antonio (June 30, 1924)		3,183	2,680
Dickey Oil Co., Putman (Supplemental)		747	1,173
Dickey Oil Co., Putman		2,484	4,020
Dillon Glasscock Co., San Antonio		786	866
Domestic Oil Co., Cisco		3,913	6,437
Donley, C. W., Ranger		2,109	2,974
Donnelly, C. J., Trustee, Ft. Worth		1,364	1,899
Donovan, D. S., Trustee, Wichita Falls		2,943	3,678
Drillers Developing Co., Electra		6,461	8,277
Dunigen & Herrmann, Breckenridge		13,722	22,345
Duquesne Oil Corp., Eastland		4,092	6,439
Durston, H. H., Trustee, Houston		2,511	3,671
Dyar Bros., Ranger, (Dec. 31, 1923)		4,256	5,060
Dyar Bros., Ranger, (June 30, 1924)		6,303	12,081
Eagle Creek Oil Co., San Francisco, Calif.		1,605	2,581
East Batson Oil Co., Batson		11,667	17,034
Eastland Oil Co., Fort Worth		37,522	55,998
Easton, E. S., Wichita Falls		191	276
Ebberts-Fulloure & Herberts, Beaumont		2,808	4,100
Eby, Webb T., et al, Eastland		1,446	1,870
Eddy Oil Company, Guffey		1,218	1,744
Edgerly Petroleum Co., Orange		59,615	85,195
Eggers, J. E., San Antonio		2,006	2,320
El Dorado Oil & Gas Co., Ranger		4,079	6,415
Electra Gulf Oil Co., Electra		17,620	25,726
Ellis & Anderson, San Antonio		251	284
Elmore Oil & Gas Trust, Wichita Falls		6,373	10,766
El Paso Burburnett Oil Co., El Paso		127	210
Emlet, L. M., St. Louis, Mo.		530	580
Empire Gas & Fuel Co., (Maine) Bartlesville, Okla.		181,261	286,393
Empire City Co., Tulsa, Okla.		85	116
Enterprise Oil Co., Atlanta, Ga.		689	1,022
Equity Oil & Ref. Co., Wichita Falls		9,082	11,353
Erickson, David, Wichita Falls		279	563
Erie Investments Limited of Texas, Toronto, Can.		1,022	1,186
Eureka Drilling Co., Wichita Falls		825	1,179
Evangeline Petroleum Co., Wichita Falls		6,317	8,781
Evans Oil Company, San Antonio		6,751	6,282
Ewing, H. E. & Co., Los Angeles, Calif. (June 30, 1924)		6,847	13,694
Ewing, H. E. & Co., Los Angeles, Calif.		3,383	5,069
Exley & Covert, Wichita Falls		689	896
Falls Petroleum Co., Wichita Falls		1,647	2,209
Farish & Ireland Lease, Houston		5,308	7,582
Farish, Watts, Collins & Crosby, Houston		75,622	110,886
Fearis Givins Oil Co., Ft. Worth		2,092	3,411
Federal Oil Co. of Texas, Cleveland, Ohio		1,367	1,822
Fensland Oil Co. of Texas, Denver, Colo.		18,946	29,919
Ferguson & Watson, Electra		5,619	7,284
Ferguson, Hawkins & Hester, Wichita Falls		6,131	7,664
Fisher, Henry J., Newport, N. Y.		1,945	2,636
Fisher & Gilliland, Wichita Falls		6,544	11,959
Five Rivers Oil & Gas Co., Wichita Falls		1,042	1,564
Flynn, W. B., Beaumont		7,237	10,682
Fogle Oil Company, Minerva		2,225	2,901
Fortune, John B., Luling		864	648
Fort Ring Oil & Gas Co., Ft. Worth		4,127	6,403
Forty One Oil Co., Wichita Falls		3,137	4,726
Foster, Watson & Ferguson, Wichita Falls		1,234	1,894
Fountain Production Co., Saratoga		3,966	5,575
Four and Four Oil Co., Humble		798	1,057
Four States Oil Co., Wichita Falls		2,020	3,762
Fox, Perry I., Ranger		1,939	3,144
Franchot, D. W. & Co., Tulsa, Okla.		476	834
Franklin, Wirt, Ardmore, Okla.		23,067	34,615
Freeman-Hampton Oil Corp., Wichita Falls		24,471	38,251
Freeport Sulphur Co., Freeport		150	150
Fresno Oil Company, Wichita Falls		25,553	37,860

Name	Address	Barrels	Value
Frontier Oil Co., San Antonio		20,118	27,166
Fuchs, Fritz, Taylor		1,600	2,132
Fuller, E. E., Wichita Falls		517	814
Fuller & Daniel, Wichita Falls		6,135	11,496
Gabler & Brannon Porter Associates, Eastland		2,445	5,257
Gabler & Brannon Porter, Associates, Eastland		2,206	3,308
Galena-Signal Oil Co., (of Texas), Houston		148,756	216,087
Gallagher & Lawson, Desdemona		692	1,038
Galvez Oil Corp., Tulsa, Okla.		8,388	11,068
Garrett, W. T., Eastland		222	318
Gas Ridge Development Co., San Antonio		56	70
Gates Oil Company, Ardmore, Okla.		4,551	5,980
Gates, F. M., Wichita Falls		1,880	2,917
Gilbert Company, Beaumont		5,369	7,538
Gilliam Logan Oil Co., Ft. Worth		4,956	5,911
Gholson, Moorman & Dorsey et al, Ranger		4,686	7,734
Gholson, Thompson, Barkley & Crotty, Ranger		15,392	25,884
Gillett, W. D., et al, Cross Cut		890	1,252
Gilliland Oil Co., Tulsa, Okla.		1,902	3,044
Ginsburg & Bohner, Burkburnett		3,903	6,060
Gladys Belle Oil Co., Tulsa, Okla.		10,562	11,333
Glass Bros., Minerva		2,648	3,055
Glasscock, M. E., San Antonio		753	958
Glasscock Leasing Synd., San Antonio		4,864	6,172
Glenridge Oil Corp., St. Louis, Mo.		4,350	5,861
Godfrey, F. L., Enid, Okla.		211	352
Godley Oil & Gas Co., Henrietta		124,383	199,491
Golconda Oil Co., No. 1, Wichita Falls		432	588
Goolsbee, A. Graham, Wichita Falls		494	766
Goolsbee & Goolsbee, Wichita Falls		726	1,212
Gordon Oil Co., of Texas, Wichita Falls		84	105
Grady, D., Electra		902	1,358
Graham, H. L., Wichita Falls		1,339	2,052
Graham & Lash, Moran		4,804	7,278
Graham & Company, Breckenridge		506	716
Grand Duke Producing Co., Muskogee, Okla.		356	639
Granite Oil & Gas Co., Montrose, Colo.		419	713
Grayburg Oil Company, San Antonio		432,263	425,977
Grayce Oil Company, Burkburnett		18,356	29,124
Griswold Oil Corp., Wichita Falls		72,665	107,866
Gulf Coast Oil Corp., Houston		36,477	54,093
Gulf Royalty & Producing Co., Houston		13,127	10,712
Gulf Production Co., Houston		2,423,379	3,526,306
Gultex Production Co., Waxahachie		6,087	9,450
Gutzler, W. F., Wichita Falls		301	456
Gutzler & Cottingham, Indianapolis, Ind.		95	125
Gwynn, P. F., Trustee, Iowa Park		1,947	3,602
Gwynn, P. F., Wichita Falls		39,477	61,142
Hablin, John, Sour Lake		7,053	9,343
Halliday & Caffall, Beaumont		832	1,173
Halmack Oil Company, Dallas		39,204	56,419
Hambleton, George, San Antonio		901	1,180
Hamill, C. G., Bay City		375	504
Hamilton, H. L., San Antonio		10,960	15,881
Hamon, Jake L., Jr., Ardmore, Okla.		3,628	5,546
Hart Oil Corporation, Ft. Worth		1,983	3,417
Hart Mexia Syndicate, Ft. Worth		711	1,200
Harrel, Tom, Oil Co., et al, Ranger		1,588	2,588
Harrel, Tom, Oil Co. et al, Ranger, (June 30, 1924)		748	1,684
Harvey, R. A., Houston		501	885
Haynes, J. H., De Leon		1,417	2,133
H. B. J. Oil & Gas Trust, Wichita Falls		4,059	6,560
Hefly, McIntosh & Thomas, Cameron		1,211	1,607
Helvetia Oil Company, San Antonio		16,755	27,781
Hemby, J. M., Electra		400	589
Henderson, E. R., Trustee, Tulsa, Okla.		647	861
Henley, J. V., et al, Electra		4,358	5,437
Herbert Oil Co. of Texas, Ft. Worth		432	649
Hereford Oil Company, Electra		9,674	15,040
Herney, Geo. S., Breckenridge		93	130
Hester, Hawkins & Ferguson, Trustee, Wichita Falls		19,362	24,202
Hester, J .M., Trustee, Humble		1,220	1,660
Hickory Oil & Gas Corp., Ft. Worth		708	1,004
Higgins Oil & Fuel Co., Houston		34,700	45,315
Hill & Jones, Tonkawa, Okla.		9,044	11,853
Hines Brodmann Co., Iowa Park		450	657
Hitchman & Howard, San Antonio		1,706	2,259
Homaokla Oil Co., Oklahoma City, Okla.		4,990	6,238
Hobbs, Chenault & Burleson, Wichita Falls.		38,860	56,458
Hobson & Voorhees, San Antonio		2,558	3,368
Hockaday & Shaw, Wichita Falls		3,946	4,933
Hoffman, Roy, Oklahoma City, Okla.		2,392	2,717
Hoffman, C. W., & K. F. Page, Eastland		189	240
Hoffman, C. W., & K. F. Page, Eastland (June 30, 1924)		189	332
Homaokla Oil Co., Oklahoma City, Okla.		7,035	12,148
Hofmeier & Deegans, Fort Worth		1,807	2,820
Hoo Hoo Oil Co., Burkburnett		174	298
Hooser, Jno. W., Dallas		59,665	82,010
Hoppes, W. T., Burkburnett		168	218
Houston Oil Company of Texas, Houston		11,511	15,344
Houston Production Co., Houston		118,295	139,119
Howard Petrol Co., Wichita Falls		1,471	2,942
Howd Oil Company, Wichita Falls		941	1,565
Hub Oil Company, Dallas		909	1,137
Hueco-Ranger Oil Co., El Paso		748	1,220
Hughes, J. T., et al, Mineral Wells (March 31, 1924)		1,296	2,820
Hughes, J. T., et al, Mineral Wells (June 30, 1924)		2,416	5,332
Hughes, J. T., et al, Mineral Wells		1,709	2,301
Hughes, J. K., Developing Co., Mexia		472,325	452,159
Hughes, J. K., Oil Co., Inc., Mexia		123,835	181,748
Humble Oil & Refining Co., Houston		4,128,070	5,960,356
Humphrey & Merritt, Wichita Falls		3,445	5,425
Hunt, J. C., Wichita Falls		1,982	2,223
Hyde Production Co., Houston		2,6176	35,496
Hyer, Fred, Fort Worth		5,798	8,750
H-Y Oil Co., Inc., Fort Worth		11,266	16,384
Idaho Oil Co., San Antonio		2,830	3,988
Ilseng, A. G., Fort Worth		12,595	22,713
Indianahoma Refining Co., St. Louis, Mo.		4,191	6,192
Infield Petroleum Co., Austin		5,295	6,722
Inca Oil Company, New York City, N. Y.		2,628	4,172
Inland Oil Company, Wichita Falls		5,982	6,837
Invincible Oil Co., Shreveport, La.		40,554	65,324
Iowa Park Oil Co., Iowa Park		3,889	5,026
Ironland Oil Co., Duluth, Minn.		1,341	1,892
Jack Dalton, Mineral Wells		2,821	4,232
Jackson Company, San Antonio		2,447	3,018
Janellen Oil Co., Tulsa, Okla.		91	91
Japhet C. B., Houston		1,926	2,718
Jarmon Oil Co., Austin		27,674	26,362
Jay, Ted R., Sipe Springs		308	492
Jewett, Frank S., Breckenridge		2,820	4,503
Johnson Bros., San Antonio		12,550	16,619
Johnson, O. C., Trustee, Laredo		3,774	2,940
Jones, C. A., Strawn		2,313	1,565
Jones Oil Company, Wichita Falls		33,306	55,437
Julia Oil Company, Sour Lake		4,665	6,918
Junior Oil Co., Cross Plains		4,783	7,823
Junior Oil & Pipe Line Co., Corsicana		1,549	1,394
Kate Bell Oil Co. et al, Dallas		3,858	5,611
Kavanaugh Petroleum Co., Houston		1,687	2,632
K. B. H. T. Syndicate, Vernon		1,246	1,938
Keener Oil & Gas Co. of Texas, Tulsa, Okla.		6,208	7,008
Keever & Gordon, Sour Lake		377	579
Keith, E. F., Desdemona		2,453	4,070
E. L. Keltz, Vernon		6,780	10,740
Kemp-Munger-Allen Oil Co., Wichita Falls		6,612	8,887
Kemp, Randel & Wilson, Vernon		150	195
Kemp & Underwood, Cameron		562	783
Kent, G. C., Corsicana		260,543	329,417
Keough Bros., Cisco		4,488	7,713
Kentucky Oil Corp., Wichita Falls		11,002	25,467
Kerr, T. P., Corsicana		342	455
Keyes, J. W., Cisco		3,116	4,261
Keystone Drilling Co., De Leon		3,657	6,231
Killam O. W., Laredo		797	588
Killam Condren Oil Co., Laredo		5,129	3,813
Kimmell & Dillard, Wichita Falls		7,025	10,480
King Booth & Nesbit Syndicate No. 2, Kansas City, Missouri		483	688
King Petroleum Corp., Wichita Falls		2,389	3,294
Kirby Petroleum Co., Houston		94,364	137,602
Kirk & Brewer, Gorman		4,611	7,794
Kishi, K., Terry		1,540	2,080
Knight, L. A., deceased, by Mrs. Sarah E. Knight, Plainview		4,382	6,337
Knotts, F. F., Wichita Falls		1,071	1,410
Knox-Lewis Oil Co., Eastland		3,165	5,606
Kolp, C. F., Electra		395	542
Kolp, C. F., Electra		5,139	7,049
Kornfeld, Mrs. Fannie, Tulsa, Okla.		360	568
Krupp, Haymon, El Paso		29,577	27,173
Kuhlemeier-Kleiner Oil Co., Cisco		3,341	4,836
Kurz Oil Company, San Antonio		860	942
Laclede Petroleum Co., Dallas		255	514
Ladd-Hannon Oil Corp., Fort Worth		743	929
Lain Oil Company, San Antonio		2,035	2,720
Lake Graham Oil Co., Houston		1,087	1,359
Lake View Oil Co., Sour Lake		19,651	25,111
Lamb, Geo. E., Brownwood		3,078	3,969
Landreth Production Corp., Breckenridge		39,068	64,638
Langford, W. S., Wichita Falls		12,813	17,375
Laredo Oil Company, Laredo		7,124	7,124
Larkin, W. B. et al, Wichita Falls		922	1,394
Lebow, M. and Simon, Tulsa, Okla.		12,605	17,884
Lee, Homer, Wichita Falls		1,395	2,009
Lee Farm Oil Company, Wichita Falls		985	1,251
Lee Oil Company, Minerva		4,353	4,903
Lee Haus Oil Company, Minerva		3,405	3,825
Lee Niehaus Oil Co., Minerva		1,056	1,158
Lee Phillips Oil Co., Minerva		2,348	2,635

Name	Address	Barrels	Value
Len-Cook Oil Company, Electra		4,659	6,080
Leonard, Geo., San Antonio		119	148
Leonard Oil Co., San Antonio		310	414
Lewis Oil Company, Pittsburgh, Pa.		3,875	6,082
Lewis Oil Corp., Wichita Falls		8,381	13,130
Lewis Oil Co. and the National Refining Company, Pittsburgh, Pa.		80,519	118,718
Levy, J. B., Wichita Falls		2,068	3,318
Light Oil Company, Beaumont		2,039	2,774
Lindsey, B. M., et al & Dixie Co. of Eastland, Dallas		5,269	9,080
Liner-Guerin et al, Breckenridge		822	1,191
Link Oil Corporation, Houston		4,962	7,157
Lion Tamers Oil Corp., Albany		600	750
Little, William, Breckenridge		3,677	5,913
Little Caddo Syndicate, Fort Worth		2,083	3,526
Livingstone, Henry S., Fort Worth		510	684
Livingston Oil Corp., Tulsa, Okla.		39,687	63,546
Lone Star Refining Co., Wichita Falls		713	1,096
Lone Star Gas Company, Dallas		15,144	23,584
Longhart Supply Co., Fort Worth		1,183	1,703
Lou Ellen Oil Co., Denison		851	1,147
Lowe Parry Oil Co., De Leon		.....	282
Lowe, Delaney & Carter, De Leon		2,809	4,494
Lowry Oil Corp., Muskogee, Okla.		6,275	11,494
Lucky Seven Oil Co., Wichita Falls		114	159
Lytle Oil Association, Lytle		596	635
McBride, W. C., Inc., St. Louis, Mo.		3,809	4,279
McCarthy, Ed. & Co., Galveston		283	283
McCarty Oil Co., Wichita Falls		80,161	110,241
McCree Petroleum Corp., Tulsa, Okla.		884	673
McDabb Oil Co., Wichita Falls		5,842	9,155
McDowell, H. B. Estate, El Paso		39	68
McEwan, J. P., Trustee, Fort Worth		2,209	3,543
McFann, G. W., Tulsa, Okla.		393	352
McFann, G. W., Tulsa, Okla. (March 31, 1924)		183	.....
McGlothlin, Mrs. L. W., Wichita Falls		825	1,193
McKes Oil & Gas Co., Ardmore, Okla.		1,448	2,296
McLester, Jerome, Ft. Worth		8,208	8,618
McMahon, F. M., Trustee, Denver, Colo.		2,397	4,126
McMamara Oil Co., Beaumont		2,974	4,149
Mc-Man Oil & Gas Co., Tulsa, Okla.		141,892	205,594
McNeill Hardware & Implement Co., Valley Mills		104	130
McNallen & Griffin, Tulsa, Okla.		6,796	10,605
McVey, E. H., Kansas City, Mo.		6,902	8,659
Maben Oil Corp., Wichita Falls		998	1,515
Madison Oil & Gas Co., Fort Worth		1,783	2,482
Maer & Staniforth, Wichita Falls		83,107	111,852
Magna Oil & Refining Co., Tulsa, Okla.		2,491	4,353
Magnolia Petroleum Co., Dallas		1,493,439	1,844,523
Mahlstedt Mook Oil Co., Fort Worth		23,741	39,263
Mann Oil Company, Wichita Falls		42	55
Mann, W. L. & Cosmopolitan Oil Co., Wichita Falls		1,997	2,318
Mann McPhail Oil Co., Wichita Falls		114	159
Mann Power Oil Co., Wichita Falls		516	760
Mann & Forbes, Graham		4,531	5,606
Mancill, R. W., Cisco		311	427
Margay Oil Corp., Tulsa, Okla.		9,649	17,712
Marsalis Bros., Humble		926	1,307
Marnet Oil & Gas Co., New York City, N. Y.		4,506	5,956
Matador Oil & Gas Co., Quanah		1,231	1,539
Martin Bros., Washington, D. C. (June 30, 1924)		2,598	3,474
Martin Brothers, Washington, D. C.		2,118	2,355
Martin Petroleum Co., Humble		3,919	5,997
Mary Elizabeth Oil Co., Dallas		99	139
Mayemack Company, Cisco		3,249	5,345
Mecom Oil Company, Houston		627	81,853
Medina Oil & Gas Association, San Antonio		565	736
Mennis, G. W., Wichita Falls		4,809	9,297
Meredith, J. D., Moran		464	531
Meridian Petroleum Corp., Tulsa, Okla.		7,844	14,241
Miami Laredo Oil Company, Lease, Laredo		8,861	6,683
Michel and Witcher, Wichita Falls		734	1,188
Michna, Emil, Wichita Falls		1,766	2,476
Mid-Co Petroleum Co., Tulsa, Okla.		1,003	1,467
Mid-Kansas Oil & Gas Co., Findlay, Ohio		96,671	158,091
Midway Petroleum Co., Brownwood		555	613
Middletown Tex Oil Synd., Eastland		2,113	3,058
Middletown Tex Oil Synd., Eastland		920	1,400
Miller, Herbert G., Eastland		396	489
Miller Bros., Breckenridge		4,730	6,217
Mills & Garitty, Corsicana		1,653	2,066
Minerva Petroleum Co., Minerva		687	914
Minor Oil Company, Beaumont		9,346	13,483
Minntex Oil Corp., Wichita Falls		1,119	1,364
Mirando Oil Company, Laredo		580	467
Mitcham, G. P., Fort Worth		644	798
Mitchell, Amos J., Wichita Falls		138	190
Mitchell and Jones, Corsicana		1,840	2,672
Mogul Oil Corporation, Eastland		667	918
Mohegan Oil Company, Mohegan Lake, N. Y.		802	1,284
Monarch Oil & Refining Company, Houston		66,869	91,994
Monroe Production Co., Graham		680	936
Montgomery Rea Montgomery, Sedwick		220	2,959
Montrose Oil Ref. Co., Inc., Shreveport, La.		2,285	3,595
Mook-Texas Oil Company, Eastland		27,829	49,187
Moore, N. A., Eastland		1,618	2,227
Moore, F. L., Tulsa, Okla.		6,766	11,292
Moore & Henderson, Tulsa, Okla.		1,044	1,387
Moss and Keys, Mexia		4,064	6,597
Murchison, Fain & Golding, Wichita Falls		28,790	37,913
Murchison & Fain et al, Wichita Falls (June 30, '24)		9,517	14,752
Murchison & Fain et al, Wichita Falls (June 30, '24)		6,773	10,498
Murchison & Fain et al, Wichita Falls		667	852
Murchison & Fain et al, Wichita Falls		16,815	22,116
Murchison & Fain et al, Wichita Falls		9,153	13,406
Murphy Oil Company of Penn., Philadelphia, Pa.		1,019	1,019
Muse, H. A., Wichita Falls		1,528	2,242
Mutual Oil Consolidated, Fort Worth		3,811	5,641
Mutual Oil Consolidated, Ft. Worth, (June 30, 1924)		6,951	15,572
Mutual Oil Consolidated, Ft. Worth, (Mar. 31, 1924)		4,811	6,879
Mutual Oil Consolidated, Ft. Worth, (Dec. 31, 1923)		11,604	13,894
Mutual Oil Company, Denver, Colo.		200,228	303,639
M and V Oil Company, Wichita Falls		3,238	5,434
Nalso Petroleum Co., San Antonio		1,737	1,400
National Oil Company, San Antonio		2,429	2,716
National Supply Company of Texas, Toledo, Ohio		582	833
Newblock Oil Co. of Texas, Tulsa, Okla.		14,154	21,978
New Domain Oil & Gas Co. Inc., Pittsburgh, Pa.		10,090	15,019
New England Texas Oil Refining Co., Easthampton, Massachusetts		222	251
Nine Hundred Oil Company, Burkburnett		99	113
Noack Oil Co., Rockdale		3,323	3,828
Noble Oil & Gas Co., Tulsa, Okla.		8,640	13,752
Norba Oil Company, Wichita Falls		2,237	3,002
Nortex Drilling & Dev. Co., St. Louis, Mo.		517	697
North Texas Oil Co., Vernon		5,991	9,160
Nueva Oil Company, Laredo		3,295	2,429
Ocean Oil & Refining Co., El Paso		329	444
O'Donohoe-Gates Drilling Co., Wichita Falls		204	255
Offenbacher, Emile, Tulsa, Okla.		519	822
Offenbacher, Emile, Trustee, Tula, Okla.		80	96
Ohio Somerset Oil Co., San Antonio		2,614	2,853
Oil Dev. Co., St. Louis, Mo.		1,697	2,295
Oil Investment Co., Wichita Falls		4,026	5,033
Oil Production Co., Houston		1,439	1,798
Oktaha Company, Tulsa, Okla.		933	1,466
Old Colony Oil Co., Dayton		2,261	2,631
Oldham, W. S., Beaumont		2,766	3,447
Omilak Oil Company, Spokane, Wash.		749	869
O'Neall Well No. One, Colorado		1,297	1,314
O'Neil, John, Wichita Falls		28,761	65,075
O'Neil, H. A., Wichita Falls		3,659	8,540
Orange Petroleum Co., Orange		52,066	75,298
Oriental Oil Company, Dallas		3,249	4,635
Orth, Thos. R. T., Wichita Falls		91	128
Overby, J. D., Iowa Park		1,923	3,560
Owens Petroleum Co., Cameron		2,843	3,747
Owens Refining Co., Cameron		238	297
Owenwood Oil Corp., Fort Worth		8,048	13,141
Oxford Oil Company, Houston		6,966	12,401
Ozark Oil Company, San Antonio, (Mar. 31, 1924)		1,595	2,001
Ozark Oil Company, San Antonio (June 30, 1924)		1,528	2,086
Ozark Oil Company, San Antonio		1,462	1,685
Paggi, Chas. & Co., Beaumont		2,163	3,060
Paggi Bros. Oil Co., Beaumont		13,189	19,032
Palmer & Chenault, Wichita Falls		569	889
Palmer, Freddie, Oil Co., Rockdale		389	393
Panhandle Refining Co., Wichita Falls		183,547	297,346
Paraffine Oil Company, Houston		2,267	4,528
Paraffine Oil Co., Houston		10,875	15,559
Parkersburg Drilling Co., Cisco		22,147	33,480
Parrish Lease, Wichita Falls		1,522	2,202
Parry Oil Co. of Texas, Ft. Worth		2,729	4,449
Patterson, J. R., Brownwood		162	183
Patterson Lake Oil Co., Corsicana		23,298	37,766
Pennok Oil Company, Tulsa, Okla.		39,491	63,719
Perkins, J. J., Wichita Falls		9,035	14,445
Perkins & Cullum, Wichita Falls		23,200	33,720
Peter Oils, Inc., Chicago, Ill.		2,555	530
Petroleum Development Co., New York City, N. Y.		3,306	4,363
Petroleum Producers Co., Wichita Falls		57,432	78,764
Philp Bros., Beaumont		1,735	2,588
Phillips, Joseph W., Wichita Falls		1,766	2,476
Phillips Oil Company, San Antonio		8,374	7,781
Phillips & Milam, Chelsea, Okla.		511	717
Phillips Petroleum Co., Bartlesville, Okla.		14,211	24,756
Pierce Petroleum Corp., New York City, N. Y.		5,261	7,812
Pinto Oil Co., Mineral Wells		277	338
Pioneer Oil & Refining Co., San Antonio		290	316
Pioneer Oil Gas & Ref. Co., Danville, Ill.		2,696	3,562
Pitzer and West, Breckenridge		12,007	18,851
Pivoto, M. E., Sour Lake		5,758	8,084
Planet Petroleum Co., Bartlesville, Okla.		87,461	142,562
P & M Oil Co., Shreveport, La., (March 31, 1924)		148	296
P & M Oil Co., Shreveport, La., (June 30, 1924)		156	351
P & M Oil Co., Shreveport, La., (Sept. 30, 1924)		158	236
Pois, M., Trustee, Wichita Falls		820	1,341
Pois & Britain, Trustees, Wichita Falls		14,225	19,896
Pois & Kruger, Trustees, Wichita Falls		12,289	19,549

Name	Address	Barrels	Value
Pomona Texas Oil Syndicate, Pomona, Calif.		1,774	2,820
Pomona Mutual Oil Syndicate, Pomona, Calif.		4,408	7,303
Pope & Wilson, Inc., Oklahoma City, Okla.		19,930	30,175
Porter & Barnard, Wichita Falls		447	683
Porter, B. E. & Co., Wichita Falls		656	946
Post Oak Oil Co., Chilton (June 30, 1924)		1,645	2,138
Powell, G. L., Moran		7,655	11,105
Powell, J. L., Wichita Falls		577	910
Powers Production Co., Houston		3,150	4,746
Prairie Lea Production Co., San Antonio		18,899	17,009
Prairie Oil & Gas Company, Independence, Kans.		249,599	402,093
Prather, Ed., Special, Houston		722	996
Prescott-Phoenix Oil & Gas Co., Wichita Falls		2,494	4,458
Prescott-Phoenix Oil & Gas Co., Muskogee, Okla.		356	639
Preston Oil & Gas Co., Brownwood		1,092	1,474
Prewitt Syndicate, Inc., Humble		3,440	4,742
Price, Russell & Company, Ranger		17,747	26,045
Priddy, Walter M., Wichita Falls		21,744	34,791
Primrose Oil Co., Sour Lake		2,338	3,314
Producers Supply & Tool Co., Marietta, Ohio		732	1,133
Progressive Production Co., Kansas City, Mo.		12,214	19,330
Pure Oil Company, Columbus, Ohio		2,035,510	2,977,489
Quakins Petroleum Co., New York City, N. Y.		8,655	14,265
Quigg, J. W., Trustee, Laredo		7,480	5,973
Quincy Oil Co., Chillicothe		251	336
Rapp, Huffman & Kline, Electra		108	184
Ramming, Henrietta C., Wichita Falls		1	1
Ramming, R. W., Wichita Falls		16	33
Ramming, W. F., Wichita Falls		53	96
Ramming, Staley & Ramming, Wichita Falls		1,263	2,402
Ramsey, Otis M., Breckenridge		1,779	2,597
Ranger-Gulf Corporation, Tulsa, Okla.		8,959	14,183
Raney, R. W., (Bob Raney Oil Co.) Breckenridge		11,603	18,822
Raney, R. W., Breckenridge		2,648	4,140
Ray, Featherstone Oil Co. Inc., Wichita Falls		13,814	17,388
Rayzor, J. P., Wichita Falls		300	376
Reclamation Co., Fort Worth		30,840	47,769
Red River Oil Company, Tulsa, Okla.		18,733	24,712
Regna Oil Company, Saratoga		5,776	7,139
Reinhart, M. J., Trustee, Oklahoma City, Okla.		1,660	2,187
Reliance Oil Company, Houston		426	575
Rentex Oil Co., San Antonio		4,227	5,283
Republic Production Co., Houston		779,981	1,117,196
Rhodes & Highers, Breckenridge, (June 30, 1924)		5,320	10,952
Rhodes & Highers, Breckenridge		4,023	6,414
Richmond Garcia Oil Co., Laredo		22,940	18,078
Riley, Henry, Breckenridge		673	808
Riley, Henry, Company, Breckenridge		567	782
Riner & Bailey, Wichita Falls		108,206	207,249
Rio Bravo Oil Co., Houston		209,545	278,696
Rio Grande Petroleum Corp., Houston		16,865	12,664
Summerfield, M. C. & G. Roberts, Dallas		714	1,072
Robertson, J. A., Santa Anna		134	134
Robinson, J. B., Atty., Sour Lake		999	1,564
Robinson, A. D., Dallas		4,533	6,679
Roberts & Hill, Wichita Falls		11,059	15,351
Rockdale Oil Co., Minerva		2,331	2,656
Rockwell, J. A. & Co., Warren, Pa.		8,791	13,954
Rocky River Oil Co., Wichita Falls		570	897
Roeser & Pendleton, Inc., Breckenridge		18,209	28,543
Rolyat Production Co., Houston		3,642	5,228
Root, C. M., Eastland		128	193
Root, Rhodes & Sykes, Eastland		10,388	15,993
Rosenberg, Jacob, Tulsa, Okla.		299	459
Ross Amigos Oil Co., Laredo		12,325	9,178
Ross Segunda Oil Co., Laredo		2,911	2,161
Ross, Dwight M., Wichita Falls		10,990	20,202
Ross & Slicker Oil Co., Fort Worth		3,472	6,223
Rountree & Simpson, Rockdale		485	540
Rountree Lee Oil Co., Rockdale		2,125	2,292
Rowan, A. H., et al, Corsicana		14,290	19,329
Rowe, M. D., Wichita Falls		267	403
Roxana Petroleum Corp., St. Louis, Mo.		246,529	341,474
Royalties Investment Co., San Antonio		430	537
Royalties Investment Co., San Antonio		245	306
Rubsam & Hunter, Wichita Falls		1,039	1,544
Rumbaugh, C. E., & T. J. Esterly, Mooringsport, La.		154	200
Russell Frank Oil Co., Wichita Falls		42	55
Russell-Sanderson Oil Co., Fort Worth		1,773	3,161
Ruyle Farm & Oil Co., Wichita Falls		19,555	31,502
Ryan Petroleum Corp., Bartlesville, Okla.		71,954	99,055
Rycade Oil Corp., Houston		221,726	286,306
Rydal Oil Co.-Coursen-Matches, San Antonio		4,475	3,347
Rydal Oil Company, San Antonio		18,464	15,865
Sammel, West & McCandless, Robinson, Ill.		2,103	3,188
San Balt Pet. Co., San Antonio		9,195	14,089
San Bernard Oil Co., Beaumont		4,108	6.095
Sankey Oil Co., Fort Worth		11	17
Sanders-Taylor Oil Co., Wichita Falls		8,385	12,108
Saratoga Oil Company, Wichita Falls		17,071	29,190
Saunders, Jno. R., Wichita Falls		53	96
Saunders, Jno. R., & W. F. Ramming, Wichita Falls		10,915	17,551
Scarborough, W. A., Burkburnett		2,589	3,797
Schlicher Oil Company, Beaumont		1,145	1,573
Schmidt, Geo. A., Wichita Falls		3,175	4,369
Schoolfield, R. E., Wichita Falls		172	225
Schott Oil Company, Laredo		12,410	9,333
Seay-Cranfill & Reynolds, Corsicana		81,929	121,136
Selma Oil Company, Houston		649	812
Selma Oil Company, Houston		1,697	2,480
Senter, E. G. Jr., Dallas		882	830
Sessions, I. P., Rockdale		166	171
Seybert Brothers & Barger, Mooringsport, La.		10,819	15,738
Shallow Oil Company, Denver, Colo.		150	18
Shamrock Oil Company, Wichita Falls		194,966	252,497
Shamrock, Bridwell & Mayfield, Wichita Falls		27,003	38,710
Shappell, T. O., & Son, Wichita Falls		3,989	6,040
Shappell Oil Company, Wichita Falls		63,955	92,351
Shaw and Lee, Wichita Falls		1,788	2,414
Shaw & Rathke, Wichita Falls		42,949	57,452
Shemen Oil & Gas Co., Pittsburgh, Pa.		150	242
Shertzer Bros., Dewey, Okla.		6,068	9,239
Sigler Oil Co., Inc., Wichita Falls		4,784	4,998
Silk Bullington & Clark, Wichita Falls		9,035	9,035
Silk. W. W,, Wichita Falls		377	565
Silurian Oil Company, St. Louis, Mo.		4,746	8,185
Simms Oil Company, Dallas		588,816	825,642
Sinclair Oil & Gas Co., Tulsa, Okla.		93,475	149,307
Sinclair Oil & Gas Co., Houston		115,656	169,908
Sink, Joel, Corsicana		197	244
Sioux Oil & Refining Co., Wichita Falls		2,619	4,424
Sipe Springs Oil Co., Sipe Springs		151	219
Sitrin, Sam, Tulsa, Okla.		463	744
Sitrin, Morris, Tulsa, Okla.		120	194
Sixty Six Oil Co., Wichita Falls		30,164	37,871
Skelly Oil Company, Tulsa, Okla.		137,122	201,703
Skinner, F. W., Oil Co., Saratoga		5,846	8,269
Slick, T. B., et al, Oklahoma City, Okla.		21,137	33,910
Sloan Oil Company, Colorado		31,659	30,557
St. Marys Oil & Gas Co., St. Marys W. Va.		6,058	10,922
Smith, E. L., Oil Co. Inc., Mexia		31,583	45,840
Smoot, Geo. A., Wichita Falls		395	493
Snider, C. W., Wichita Falls		3,760	6,037
Snowden & McSweeney Co., New York City, N. Y.		124,772	192,875
Somerset Crude Oil & Refining Co., San Antonio		6,612	8,162
Somerset Oil Co., San Antonio		1,909	2,100
Sooner Oil Association, Wichita Falls		2,118	2,648
Southern Petroleum Co., Houston		9,631	13,826
South Stephens Oil Synd., Fort Worth		355	488
Southern Exploration Co., Houston		1,857	2,507
South Vernon Oil Co., Vernon		4,225	4,225
Southern States Lease & Production Co., Los Angles, Calif.		5,102	7,653
Southwestern Petroleum Co., Tulsa, Okla.		694	1,064
Speed, C. D., Corsicana		163	223
Sprawls, Harwell & Cook, Abilene		1,281	1,557
Sprawls, Harwell & Cook, Abilene (Supplemental)		309	494
St. Louis Oil & Dev. Co., Wichita Falls		949	1,540
Staley, J. A., Wichita Falls		9,203	18,862
Staley, J. I., Wichita Falls		15,245	24,684
Staley & Fritz, Wichita Falls		4,332	6,464
Staley, Langford & Wynne, Wichita Falls		2,101	2,865
Staley & Wynne, Wichita Falls		83,604	131,945
Staley Mashburn Oil Co., Wichita Falls		472	731
Standard Oil Land & Leasing Co., Electra		254	335
Standifird Bros., Iowa Park		1,610	492
Sandifird Bros., Iowa Park (Storage Oil)		1,355	1694
Star State Oil Company, Moundsville, W. Va.		205	242
States Oil Corporation, Eastland		65,046	92,559
Steele, Charles, Moran		697	943
Stella Oil Company, Beaumont		7,840	11,331
Stephens Oil Company, Sour Lake		942	1,288
Stidham, Thrasher & Humphrey, Electra		1,683	2,104
Stidham, O. M., & C. C. Thrasher, Electra		141	276
Stone, F. W., & Co., Cross Plains		1,955	2,443
Stout Oil Company, Brownwood		62	86
Stovall, E. C., Graham		1,074	1,966
Stovall Oil & Gas Co., Moran		6,670	10,024
Straus-Allen Oil Co., Wichita Falls		4,380	5,475
Strawn Petroleum Co., Denver, Colo.		12,256	18,828
Stroube & Stroube, Corsicana		52,366	82,542
Sunray Oil Corp., New York City, N. Y.		175	249
Supreme Oil Co., Orange		3,052	5,204
Superior Oil Producing Co., Lexington, Ky.		3,027	4,083
Superior Oil Company, Superior, Wis.		57	81
Stull, R. O., Wichita Falls		28	47
Sturm, H. L., Ardmore, Okla.		644	1,084
Sun Oil Company, Dallas		1,080,875	1,508,095
Swastika Oil Syndicate, Olney		25,228	35,282
Swensondale Oil Co., Caddo		42,645	69,304
Talley, Oscar, Trustee, Burkburnett		394	591
Taylor-Sibley Snydicate, Dallas		3,535	4,612
T & B Pipe Line Co., Wichita Falls		4,439	7,982
Texas Company, Houston		2,570,089	3,818,525
Texas Consolidated Oil Co., San Francisco, Calif.		3,964	6,389
Texas Electra Co., Columbus, Ohio		493	646
Texas Buffalo Oil Co., San Antonio		822	962
Texas Fidelity Oil Corp., Louisville, Ky.		26,333	35,464
Texas Oil Producing Co., Dallas		249	274

Name	Address	Barrels	Value
Texas Oil Producing Co., Dallas (June 30, 1924)..		207	310
Texas Petroleum Development Co., Gameron.....		9,504	10,675
Texokan Producing Co., Coffeyville, Kans.....		13,150	19,658
Texhoma Oil & Ref. Co., Wichita Falls		489,308	693,481
Texota Petroleum Company, Electra.....		790	1,026
Texas Southern Oil & Dev. Co., San Antonio.....		4,059	5,360
Texas Oil Corporation, Dallas		301	397
Texas Pacific Coal & Oil Co., Thurber.....		254,299	414,525
Texas Pacific Coal & Oil Co., Thurber, Other Companies for		171,934	271,098
Texas Plains Syndicate, Chicago, Ill.....		529	661
Texas Plains Oil Co., Casper, Wyo.....		1,269	1,587
Texana Oil & Refining Co., Wichita Falls.....		1,569	2,066
Texana Oil & Ref. Co., Wichita Falls, (June 30, '24)		2,163	3,392
Thall Oil Co., Beaumont		1,098	1,415
Thaxton, W. H., Austin		334	418
Thomas, H. J., Somerset		328	314
Thomas, H. J., Somerset, (June 30, 1924).....		321	460
Thomas, Mack, Wichita Falls.....		287	442
Thomas, Mack, Wichita Falls (June 30, 1924).....		400	773
Thompson, J. L., Trustee, Ranger.....		5,834	8,957
Thompson Oil Corporation, Ranger.....		11,996	17,675
Thompson, W. J. et al, Colorado.....		5,506	5,377
Thompson & McKinnis, Ranger		2,011	3,358
Three Rivers Oil Co., San Antonio.....		18,976	19,234
Thorman, H. C. et al, San Antonio		3,805	3,425
Thorman, H. C. et al, San Antonio (June 30, 1924)..		2,766	2,075
Tidal Oil Company, Tulsa, Okla.		408,067	737,606
Tidal Osage Oil Co., Tulsa, Okla.....		7,761	14,058
Tidal Western Oil Corp., Tulsa, Okla.....		3,989	6,038
Tidwell, R. V., Trustee, Graham		2,905	6,038
Tidwell, R. V., Receiver, Graham		4,143	6,159
Tidwell, R. V., Trustee, Graham		1,590	2,333
Tillery, L. J., Oil Co., Beaumont		6,214	8,605
Timblin, W. E., Wichita Falls		860	1,259
Tolbert, Johnnie, Oil Co., Midlothian		4,177	6,766
Transcontinental Oil Co., Pittsburgh, Pa.		11,833	17,188
Triangle Oil Co., Wichita Falls		1,203	2,280
Tri Mutual Oil Dev. Co., Rapid City, South Dakota (June 30, 1924)		79	115
Tri Mutal Oil Dev. Co., Rapid City, South Dakota		16	27
Trinity Production Co., Dallas		1,537	1,959
Trumbo, A. C., Muskogee, Okla.		31	43
Tucker, C. A., Dallas		68,912	97,615
Tucker and Fox, Dallas		2,626	4,752
Tucker and Fox, Dallas		224,166	317,534
Tucker and Langford, Wichita Falls		51,277	81,004
Tulsa, Company, Wichita Falls		630	1,011
Turner and Clayton, Inc., Eastland (June 30, 1924)		6,755	14,487
Turner and Clayton, Inc., Eastland		3,978	6,502
Two Republics Oil & Gas Co., Laredo		14,150	10,586
Tyson Oil Company, Sour Lake		1,733	2,166
Underwood Drilling Co., Wichita Falls		12,342	19,346
Underwood Drilling Co., Wichita Falls		38,498	36,261
Union Oil Co., of Nevada, Graham ..6.....		7,155	10,371
United Central Oil Corp., Houston		90,471	145,764
United Oil & Fuel Co., Wilmington, Delaware		800	1,091
United Production Company, Wichita Falls		8,913	13,812
Unity Oil Company, Beaumont		15,362	22,904
United North and South Oil Company, Luling 2,452,287			2,309,898
Upham Gas Co. of Texas, Mineral Wells		1,717	2,574
U. S. Tex Oil Corp., Fort Worth		21,385	30,758
Val Verde Oil Co., Del Rio		3,425	4,515
Van Cleave Oil Trust, Wichita Falls		2,733	4,419
Varner Oil Company, Houston		36,182	43,636
Vat Oil & Gas Co., Byers		251	251
Verschoyle, C. H. Wichita Falls		22,952	34,224

Name	Address	Barrels	Value
Virginia Oil Association, Fort Worth		5,167	8,366
Waggoner, R. M., Special, Wichita Falls		6,061	8,994
Waggoner, R. M., Special, Wichita Falls (June 30, 1924)		6,291	13,218
Walker, A. C., Wichita Falls		370	879
Walker, B. S., Breckenridge		1,727	2,650
Walker, P. G., Jr., Tulsa, Okla.		91	91
Walker-Caldwell Producing Company, Breckenridge		11,582	15,386
Wallace, F. E., Corsicana		2,523	3,987
Wallace, Dr. Charles William, Wichita Falls		72,073	99,282
Watkins, J. A., Wichita Falls		212	467
Ward, Faye R., Dallas		72	90
Webb Oil Company, Humble		5,285	7,411
Weber, Howard, Bartlesville, Okla. (NE¼ of Block 83, Wichita County, Texas)		5,365	8,900
Weber, Howard, Bartlesville, Okla. (SW¼ of Block 83, Wichita County, Texas)		4,814	7,749
Weber, Howard, Bartlesville, Okla. (SE¼ of NW¼ Block 88, Wichita County, Texas)		1,738	2,855
Weber, Howard, Bartlesville, Okla. (S½ of NE¼ of SE¼, Block 88, Wichita County, Texas)		1,383	2,294
Weber, Howard, Bartlesville, Okla. (Five acre tract in SW¼ Block 97, Wichita County, Texas)		746	1,212
Weber, Howard, Bartlesville, Okla. (W½ of NE¼ of SW¼ Block 88, Wichita County, Texas)		910	1,503
Weldon Oil Company, Saratoga		9,584	12,190
Wells & Guiberson, Vernon		3,503	3,503
Welles, W. G. Trustee, Nacogdoches		712	1,246
West, F. B., Houston		2,793	3,803
West Production Co., Houston .....6.....		3,103	4,376
Westervelt-Noble et al, Oklahoma City, Okla.		10,926	17,889
Western Oil Fields Corp., Denver, Colo.		212,226	312,426
Western Oil Corporation, Wichita Falls		3,257	5,081
Whaley Mineral & Realty Trust, Ft. Worth		7,990	10,540
Wheatley Oil Company, San Antonio		79,830	64,848
Wherry and Laughman, Beaumont		1,327	1,934
Wherry and Rambo, Beaumont		1,011	1,604
White, James H., Wichita Falls		1,010	2,020
Whitehead, C. W., et al, Graham		4,947	6,738
Wickett, F. H., Shreveport, La.		4,702	3,757
Williams, Burt, Wichita Falls		1,330	1,653
Williams, John H., et al, Dallas		5,475	9,235
Williams, R. L., Brownwood		140	140
Wilmut Farm Oil Co., Wichita Falls		29,255	38,317
Wilson-Broach Co., Beaumont		20,258	29,820
W. W. Overby Lease, Wichita Falls		804	1,280
Wilson Drilling Co., Wichita Falls		6,699	10,622
Wilson and Mead, Corsicana		3,858	5,179
Winnipeg Oil Co., Wichita Falls		10,006	15,208
Winnipeg Oil Co., Wichita Falls (June 30, 1924		12,335	23,175
Wise and Jackson, Sapulpa, Okla.		6,380	9,087
Witcher, Annie L., Guardian, Wichita Falls		5,260	8,151
Witherspoon Oil Co., San Antonio		78,539	95,916
Wittmer Property Trustee, Pittsburgh, Pa., (March 31, 1924)		865	1,402
Wittmer Property Trustee, Pittsburgh, Pa.		15,514	22,165
Wolfe, Frank T., Wichita Falls		1,510	1,979
Wolfe, Frank T., Wichita Falls, (June 30, 1924)....		1,467	4,115
Wonder Oil Co., Inc., Houston		1,805	2,657
Wood, Owen A., Trustee, Fort Worth.....		13,538	19,326
Wood, G. C., et al, Wichita Falls		26,640	37,296
Woodburn Oil Corp., Dallas		39,280	53,953
Woodrow Lee Trust, Wichita Falls		988	1,819
Yates, M. T., Wichita Falls		1,766	2,476
Yoakum-Shiner Oil Co., Yoakum		10,793	9,979
Yount-Lee Oil Co., Beaumont		118,778	187,558
Yuba Oil Company, Nacogdoches		321	598
Yuba Refining Co., Nacogdoches		305	567

Wortham Still Looms as Crude Price Fixer

North Texas markets easier; Oklahoma operators more optimistic, and East expecting advance

CONVINCING evidence that the Wortham field will shortly assume the role of being the largest source of production in the country was offered during the past week when two new completions added five thousand feet of productive territory, making the field practically proven for a stretch of about 15,000 feet. These two wells added 15,000 barrels of new production, and are the first completions made since the companion discovery wells were brought in late last month by the Humphreys-Boyd Oil Company. A fifth well is in process of completion, and the present 23,000 barrels of production in the field will undoubtedly climb steadily until the flush is exhausted from the Woodbine sand pay.

The completion of the Penn well on the east edge of Wortham Saturday from the second Woodbine sand after testing dry in the regular pay has enhanced the possibilities of Wortham as a disturbing factor in the Mid-Continent crude market, and both crude and refined products reflected softer markets early this week. Until Wortham is drilled up, a raise in crude prices is not to be expected, and producers in other high gravity fields are again selling their crude as produced rather than to hold it in storage for a price advance. This practice is contributing to a softer crude market in North Texas, as many of the producers withdrew their crude from the market during November in expectation of higher prices, but the threat offered by Wortham has materially reduced the possibilities of an early crude advance. Premium offers made during the past week by independent refiners in North Texas for spot crude have been reduced from 10 to 15 cents per barrel, and sales fell off towards the close of the past week. Quotations on refined products have also softened since the outbreak at Wortham, and gasoline prices have been reduced from one-quarter to one-half cent per gallon on some grades. Most of the refiners are contracted over the balance of the year for their gasoline output, and are making concessions on delieveries for January.

Since the life of flush production of fields in the East Central Texas fault region is comparatively short, with wells flowing only about 30 days when drainage has set in, the major companies are bent on filling their tankage and lines in the Wortham field. Connections are being solicited by all seven of the major carriers, while independent buyers are invading the field for crude to be shipped out in tank cars. The Clayton Oil & Refining Company is building a 40-car capacity loading rack on the H. & T. C. Railroad south of Wortham to buy crude and ship same to its refinery at Dallas, and will be equipped to handle about 10,000 barrels daily, with promise of a reduced freight rate. Marland Oil Company of Texas, Simms Oil Company, Humble Oil & Refining Company, Pure Oil Company and others will also use tank cars to increase their crude shipments from the field.

Tulsa, Okla., Dec. 16.—Sinclair Crude Oil Purchasing Company officially denies that it has or is negotiating with J. K. Hughes of Mexia or any other company or individual for a contract covering a quantity of Wortham crude oil such as has been reported. Sinclair has and still is soliciting connections in the new Wortham pool but is not offering to make any long time contracts for big production.

A bonus of 10 cents per barrel for crude testing 36 gravity and above in Eastland, Stephens and Young Counties is enabling the Humble Oil & Refining Company to materially increase its crude purchases in these counties, which are termed the Ranger district. Humble has been paying this premium since September 17, while the top price of the other five major crude buyers in this district is $1.25 per barrel, and the latter have lately been losing the best connections in their lines because of the difference in price. This difference in price quotations affords Humble an advantage over other crude buyers in trying to keep lines loaded in the face of steady declines in production, and an equalization of prices will probably take place shortly.

There is belief in the light oil area of the Mid-Continent field, however, that crude prices will maintain their present levels until after the first of the year.

An advance in Eastern grades appears likely and may be posted before the beginning of 1925.

There is not likely to be any changes in the Rocky-Mountain grades nor in the Middle West before the close of the year.

East Relieved

Indicative of the desire of producers in the Appalachian region to afford relief to pipe line companies in that section of the country is the selling of upwards of 50,000 barrels of crude held in storage in Northwestern Pennsylvania by oil men who were affected by the embargo that the National Transit Company placed on oil it would handle except for immediate sale. This embargo was in effect for a week and was lifted after room was afforded in the company's tanks. The situation, however, is not cleared up by any means by this action, as crude still is being held for higher prices in the Eastern fields. Some producers in Pennsylvania have agreed among themselves not to dispose of their crude under $3.25 a barrel.

In Oklahoma some of the larger independent producers still are storing much of their present production rather than dispose of it to pipe line companies at the prevailing price level. Among these are the Amerada Petroleum Corporation, Pennok Oil, T. B. Slick, Tidal Oil, and others, although in some fields in the state, notably Cromwell, in Seminole County, the tankage of Amerada and Tidal are reported close to capacity. This withholding of crude from the open market has had a good effect on the demand for oil and will continue to have until such time as an advance is posted and then much of this accumulation will be disposed of.

Premiums in Oklahoma continue to be the vogue with a five or ten-cent boost reported now and then over the previous high mark. Crude is active in all fields and solicitation by buyers is becoming keener all the time with the Prairie and Sinclair taking the lead. Small independent refiners are finding it profitable to operate at the present crude market and these have injected a bit more competition in the scramble for new connections.

In Kansas, as in the past, when crude becomes more active, buyers are not displaying the excitement that attends solicitation in Oklahoma and other states in the Mid-Continent light oil area. Purchasers in the Sunflower state are active but premiums are not being paid generally, or at least there is little or no outward intimation that they are. Several Kansas refiners are known to be paying a bounty for Oklahoma crude. However, this is largely for Tonkawa and is being paid by refiners located at Arkansas City and other points near the Oklahoma line. Pipe line companies in the meantime are making arrangements for handling more oil in several sections of Oklahoma and Kansas in anticipation of the spring demand for refined oils. The Pierce Petroleum Corporation has been negotiating for an interest in the Consolidated Pipe Line Company of Tulsa, with a gathering and transporting system in Tulsa, Osage, Okmulgee, and other counties in the state.

Pierce Petroleum, as a result of its recent reorganization, is becoming

more aggressive in the Mid-Continent and this deal is in line with its recently authorized expansion program. In Kansas the Skelly Oil Company and Roxana Petroleum Corporation, both are engaged in preliminary work for the construction of lines extending out from the Cowley County development. The Skelly line will be extended to Sedgwick County and will be connected with the gathering system of the company leading to its El Dorado refinery. The Roxana line is to run from producing leases in Cowley County to its Arkansas City refinery. Roxana has developed production in both the Graham and Winfield pools in that county.

Field work in Montana has been slowed down this last week by the coming of real winter weather. Several companies operating in the Kevin-Sunburst area having closed work and as a result crude in that section is becoming increasingly hard to obtain by the smaller refiners. The Ohio Oil Company, which is the chief furnisher of crude in the area, is selling its oil to the Imperial Oil Company across the Canadian border, and with prospects of no winter development the smaller independents are faced with a real problem.

Government Report Shows Million Barrel Crude Stock Decrease During October

STRENGTHENING tendencies in the oil industry were noticeable during October as shown in the United States Geological Survey report for that month. Outstanding results of operations were decreases of more than 1,000,000 barrels in net pipe-line and tank-farm stocks of crude petroleum. According to the Survey, this is the first reduction recorded for total stocks since January, 1924, and the second decrease since 1920.

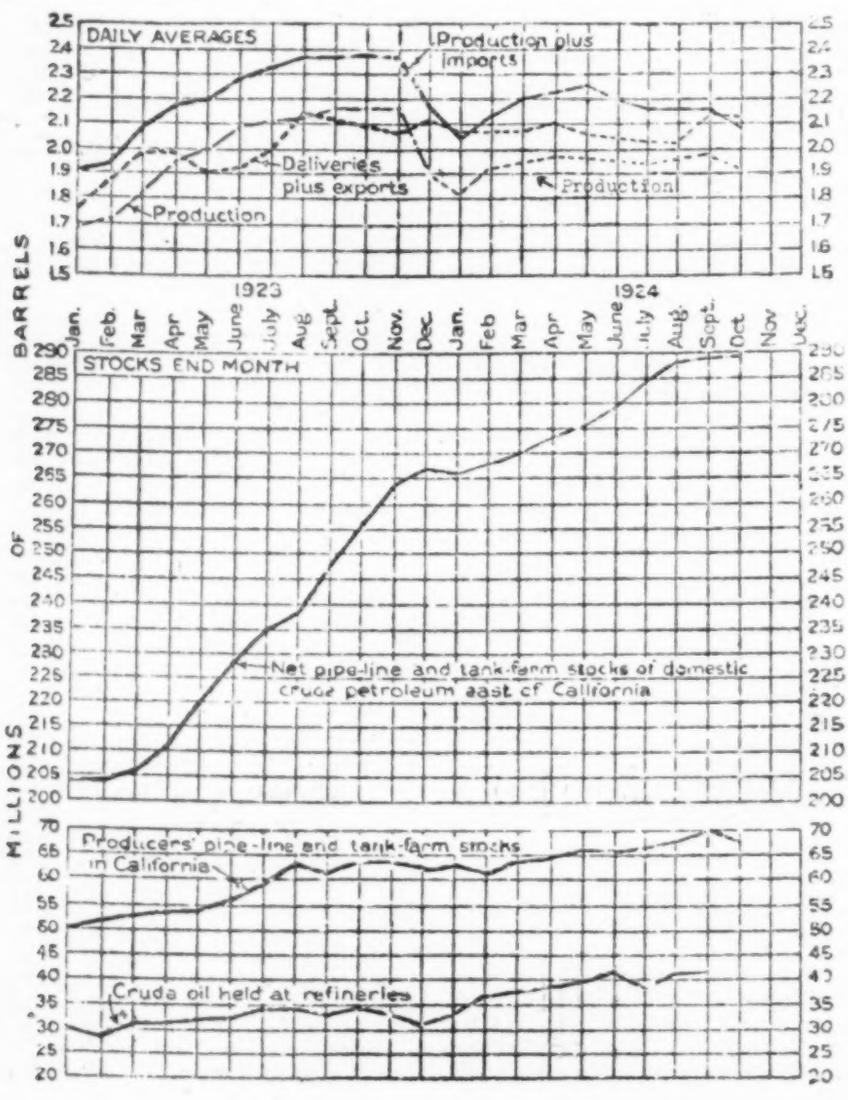
Daily average production was 57,000 barrels less than during the previous month. Due, however, to the fact that October had one more day than September, the total amount of oil produced in October was more than that for September.

With the exception of January, 1924, daily average imports and production, totaling below 2,100,000 barrels were considerably less than during any month since February, 1923. Deliveries and exports were maintained at a point near the highest recorded—more than 2,100,000 barrels. Imports were less than in any month since August, 1921.

The greatest decrease in imports was from Mexico. Daily average decreases of Mexican oil, as compared with September, were 15,000 barrels.

Deliveries of domestic and foreign crude to domestic consumers amounted to 2,000,000 barrels more during October than in September. Crude moved from California to eastern ports was more during October than September, by about 16,000 long tons, as shown by declarations from masters of vessels passing through the Panama Canal.

Five of the nine producing areas of the country reported decreases in stocks; the other four showed increases. Eastern States, Central States the Mid-Continent, and Northern Louisiana and Arkansas were unable to cut down stocks. Kentucky, Illinois and Southwest Indiana, Texas Gulf Coast, Rocky Mountain States, and California all showed substantial decreases with California leading. Stocks on the west coast were reduced 1,400,000 barrels.


DAILY AVERAGES
Production plus imports
Deliveries plus exports
Production
Production
BARRELS
1923
1924
Jan. Feb Mar Apr May June July Aug Sept. Oct. Nov. Dec. Jan. Feb Mar Apr May June July Aug Sept. Oct Nov Dec
STOCKS END MONTH
Net pipe-line and tank-farm stocks of domestic crude petroleum east of California
MILLIONS OF
Producers' pipe-line and tank-farm stocks in California
Crude oil held at refineries

Killam Buys Production In Laredo Oil Fields

Laredo, Texas, Dec. 15.—O. W. Killam, head of the Texpata Pipe Line Company, controls more production than any one operating in the Laredo field following the close of several deals during the week.

Mr. Killam obtained 40 per cent of the Big Bend Oil Company's stock. This company holds 80 acres in the Henne, Winch, Farriss pool. He also purchased a 40-acre tract in Jim Hogg county, adjacent to the Henne, Winch, Farriss gushers.

Operators in the new pool are rushing their wells to completion. After encountering showings of oil and gas, the Shasta Oil Company set a liner in its test, located one mile east of the Martinez ranch producers. Alworth Brothers have spudded in on No. 1, block 38, survey 15, Las Animas grant.

J. L. Snyder, formerly with the Standard Tank Car Company, has recently become associated with the Quaker City Tank Line, Inc., with offices at 411 Olive Street, St. Louis, Mo.

S. H. Brooks, recently resigned president of the Oil Conservation Engineering Company ,announces that he has become connected with the Farr Hydraulic System handling the Stough Tank roof. Mr. Brooks is now located at 318 East 12th St., Los Angeles.

F. G. Harris, Mid-Continent representative of the South Chester Tube Company of Chester, Pa., has returned to district offices in Tulsa after a trip through Texas and other states.

Theoretical Mechanics of Flowing Wells

A discussion of the influence of gas and pressure in producing oil wells

The accompanying article concludes the discussion started by Mr. Pennington in the December 12th issue of The OIL WEEKLY.
—The Editor.

By Harry Pennington
Mechanical Engineer

When a flow nipple or bean is necessary to choke a well to prevent damage, gas does more duty per thousand cubic feet than if the well is opened, because the proportion of gas to oil in choked wells is less than when the same well is opened up, due to the pressure of the oil column (mixed with gas) on the sand preventing the free inflow of gas; we know this because the oil column can shut off gas and oil flow, and when the well is choked the same effect is secured, but to a lesser degree.

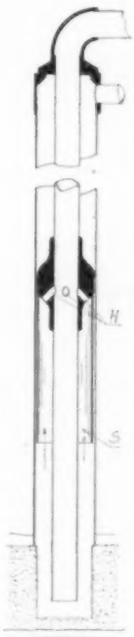


Figure 10.

Wells that make sand are choked in effect, and many of such wells have had phenomenal production on the Gulf Coast and Pacific Coast, due not only to free flow into the well, but also to the lengthening of the flow period by the effect of sand choking the well and securing a greater unit duty of the gas content of the sand.

In lifting oil, the volume of gas at the working pressure at the bottom of well is the prime factor of gas duty; when the working pressure is reduced, the volume of gas, that is the space occupied by a given amount, density is increased, and a given amount of gas can therefore perform greater duty. This means that when lower working pressure is had, by open flow, gas can perform a greater duty insofar as lifting oil up through the flow line is concerned, but this sacrifices well pressure; we need pressure on the sand to drive oil to the well bore. Then, when the flow line is proportioned to maintain sufficient well pressure at bottom, and to use just the amount of gas necessary to lifting oil, the well produces the maximum oil. Under high pressure, velocity of gas toward the well is not the important factor that pressure is, because the gas volume is so small, due to density, and its effect small, compared to pressure.

The quality of gas as to its liquefaction properties varies with the field; the gas produced at Burkburnett, when compressed to 250 pounds, loses more than half its free gas volume due to liquefaction of the heavier content; but gas of the Gulf Coast, without any gasoline content, loses no appreciable free gas volume, because there is no liquefaction upon compression and cooling But, Coastal gas is absorbed into oil when intimately mixed with it under pressure; the same gas fractions are also absorbed by pressure in light oils. Therefore, the duty of gas, or vapor, is also proportional to the liquefaction factor; when the gas is liquefied with difficulty, it is evident that greater duty is secured from this quality of gas.

But all gas is not found in solution with oil as shown by the fact that some fields show only gas when the sand is first struck by the bit, then oil below, while others show gas and oil immediately, yet the unit proportion of free gas may be evolved in equal volume from each sand.

Water Pressure

The case where the field makes no gas is unusual; the Cat Creek field, of Montana, is such a field. A high pressure water content surrounds the oil zone, gas has evidently escaped through the overlying shale, and the water has set up enough pressure to flow the wells without any gas whatever.

The lifting power of gas is comparable to the lifting power of air, with the limitations upon gas as set out in the foregoing. We can now make calculations of quantity of air, and proportion of pipes with reasonable assurance of accurate performance, because the proportion of air to fluid, and of pipes to fluid has been worked out empirically to such point that practically every operating condition has been covered. In the case of pumping water, the lifting power of air is only that amount pumped in; many estimates given for air lift pumping of wells do not include the amount of gas made by the well, which is properly an addition to the air pumped in, and if this is not taken at the correct figure any figures of performance, or of efficiency are misleading. Hence, we find that the amount of air required for pumping oil wells varies materially in different wells, part of which is due to this.

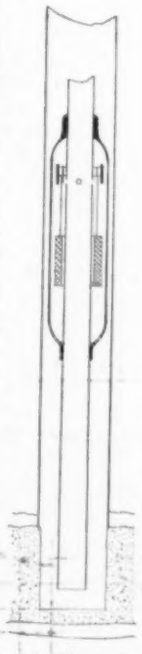


Figure 11

Where gas is taken by a gasoline plant through a meter, the duty of gas may be quite accurately computed per barrel of oil; the quantity varies widely in the field, but there is no reason to believe that the gas content of a sand cannot deliver as much duty as its equivalent in air.

When an air lift will deliver one barrel of oil per 110 feet of air and gas, and another well without air delivers 2500 feet of gas per barrel, we can see that the gas is not being put to the duty possible. Gas comes into the well more intimately mixed, and in better proximity to secure greater duty anyway.

By computation, the stored energy contained in the estimated gas content of a field like Tonkawa, is many more times the quantity of energy necessary to lift the entire oil content to the surface.

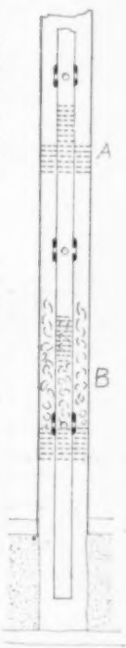


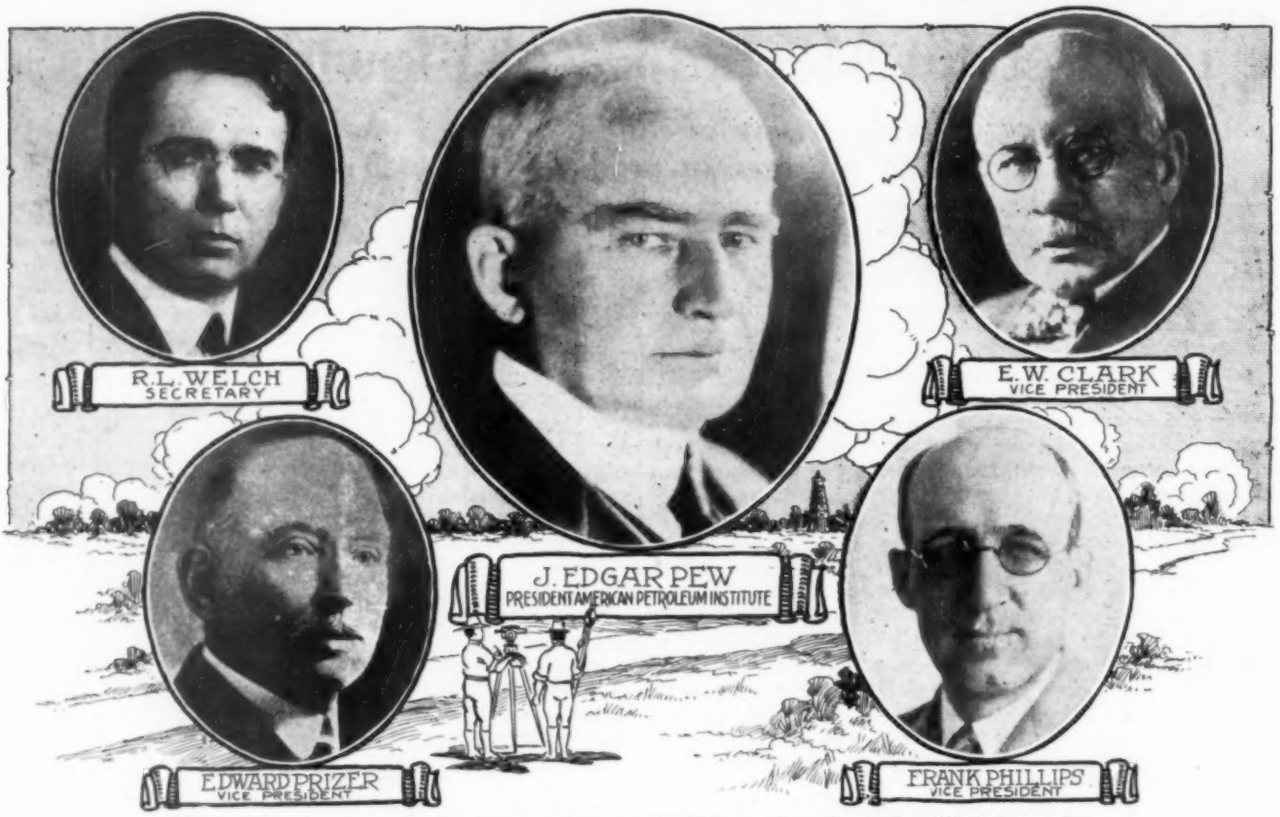
Figure 12.

Flowing Devices

The many flowing devices made depend upon the proportioning of the flow line to fluid and gas; the flow line confines the gas to a smaller column in the pipe smaller than the casing, preventing gas from slipping upward through the oil without lifting the oil. The signal success of a flowing device on a well and a failure of the same device on another is a marked characteristic. The flowing device is an adaptation of the conventional foot piece, or of the tubing and packer flowing method and, when the device secures a good flow, it exactly suits the well. But there are so many variables in flowing wells—quantity of oil, quantity of gas, liquefaction factor of gas, rock pressure, diameter of casing, depth, that it is evident one single size of flowing device, with the same number and size of gas inlet holes, skirts and tubing line is not suitable to all wells and inevitable failure in some in-

(Continued on page 79.)

John F. Penrose, president of the American Seamless Pipe Company, headquarters in New York City, has been in Los Angeles for about two weeks visiting at the California office of the company. A. J. Carr, vice president of the company, who makes his headquarters in Los Angeles, will attend the American Petroleum Institute meeting with Mr. Penrose.



Officers of the American Petroleum Institute elected at the fifth annual meeting in Fort Worth last week.

Institute Scores Most Successful Meeting

Standardization and better relations with public outstanding developments of sessions at Fort Worth

By R. L. Dudley

Fort Worth, Texas, Dec. 16.—When activities of the fifth annual meeting of the American Petroleum Institute came to a close the evening of December 11, the session had earned the approval of those attending to the point that it was designated the most successful gathering in the history of the organization.

While this was the occasion of no surprise to those behind the movement to bring the institute meeting to the oil country, it was a revelation to many, accustomed to see the meeting in one of the larger cities. So aside from the success of the sessions just closed, conduct of the meeting was such that other cities of the smaller class in population but having direct contact with the development of oil fields may be assured of future meetings.

The whole citizenship of Fort Worth seemed to appreciate having an opportunity to entertain the most influential gathering in its history. That city has had conventions with more delegates but it never had the honor to know men whose actions control as much wealth as those who make up the institute.

To a smaller degree, the meeting was a credit to the State of Texas which is now bidding for the first place in the development of producing fields.

In passing comment on the way affairs of the meeting were conducted, it is proper to pay a compliment to Amon G. Carter, president of the Fort Worth Star-Telegram. This booster for his home city as well as for Texas contributed the greatest individual effort toward making the meeting a success from every angle.

There were expressions of disapproval, when Fort Worth was selected for the session. Opinions of this order were quickly erased once the leaders of the industry arrived. Aside from the efforts put forth to make the affair a success, this condition contributed to it. When the institute met in a small city, its affairs become of prime importance, having no rival attractions. This may not be true when a larger city draws the meeting.

Attendance at the general sessions was evidence that the institute had the spotlight in Fort Worth. The theatre selected for the speeches never drew fewer than 1000 persons. Some of the crowds were estimated as high as 1500.

The group sessions drew attentive audiences. Attention was good, while discussion was the type to bring benefit to those assembled for consideration of the subjects.

While the entertainment fell short in the one particular of developing no "badger fight" it set a record for side lights on an institute session. No man who saw J. Edgar Pew, elected president; R. L. Welch, the secretary, and Amon G. Carter, Fort Worth booster extraordinary, arrayed in costumes of the Ben Hur class, while they tried to induce six Texas jackasses, hitched to three improvised chariots, to circle the track of the Coliseum, could fail to class the entertainment as the best in the history of the institute.

There were banquets, dances and dinners as other entertainment features. These affairs were, of course, to be appreciated for the moment only. They took but a minimum of the time of the meeting. For the most part, those gathered at Fort Worth were bent on gaining knowledge or accomplishing something of benefit to the petroleum industry.

Accomplishments

Two accomplishments stand out as the result of the Fort Worth meeting. One is standardization of equipment. The other is the move to establish a better understanding of affairs of petroleum with the general public.

Committee deliberations on standardization began the day previous to the opening of the meeting. No better

evidence of the hold this subject has on men of the industry is to be had than these preliminary gatherings. Completed reports were made by the tubular committee and that on rig irons.

Only casing has been completed in the tubular reports. This committee's work was outlined by J. Edgar Pew, now president of the institute, former chairman of the tubular committee in these words:

"I want to report for the benefit of the chairman in behalf of the tubular goods committee, that the general specifications have been adopted by the board of directors and that the complete specifications have been adopted for casing material. The specifications for threads and the joints on drill pipe have not been gone into. The tubing has not been dealt with in any matter. Whether or not it will be is to be decided later.

Work Co-related

"We have made no changes in line pipe, excepting possibly the general material that goes into the line pipe. It was the thought of this committee as to drill pipe that we should not do anything further until the rotary equipment committee made their report and possibly had some suggestions along what should be done on the drill pipe joints. We would like to have those suggestions as early as possible. The same applies to tubing. We wanted to get suggestions from the pumping equipment committee, which really has not been fully organized. In other words, these committees are all to act in harmony where there is any possible chance of community work or interest."

The joint meeting of the committee of the board of directors with the general committee on standardization, the first day of the institute, brought out more clearly the two facts: that each committee is to some extent dependent on one or more other committees; and that standardization is due to enter into the specifications of equipment not now included in the efforts.

Tankage came in for discussion at this joint meeting with the result that a committee is to be named to prepare specifications on field tanks from the small flow sizes up to the larger tank farm sizes.

Field Men Approve

That standardization of equipment is meeting approval of field men in California was revealed by F. H. Hillman whose remarks were:

"I speak, of course, now only on California and it is to me the most wonderful revelation that I have ever seen in the business to note the interest that is being taken in standardization by not only the engineers but also by superintendents and workmen.

"If there is any branch of this work that is really appreciated in the oil fields, it is the work of this standardization committee, which I doubt any of you who are not acquainted with field conditions really appreciates how this committee is considered by real workmen.

"It is to be a revelation of the business. When I came down here on this trip there was just one place I wanted to come and that was to get acquainted with the people who had worked out this standardization business. I can see really more sacrifice in the business in the standardization work than any other. It is one branch that has appealed to me the whole way through."

These remarks by the Californian were prompted by some criticism of men of the Mid-Continent district for not showing better interest in standardization.

APPLICATION TO USE OFFICIAL MONOGRAM OF THE AMERICAN PETROLEUM INSTITUTE

THE AMERICAN PETROLEUM INSTITUTE,
15 WEST 44TH STREET,
NEW YORK CITY.

Gentlemen:

In consideration of the American Petroleum Institute granting ..... (us—me) the right to use the official monogram of the American Petroleum Institute in the manufacturing of .....

..... agree that the use of this monogram is a representation that material (We—I) so marked complies with all of the conditions and specifications contained in the official publication of the Institute entitled: .....

..... further agree that no material which fails to comply with such (We—I) specifications shall be so marked.

..... (*Name of Company*)

..... (*Authorized Agent or Officer*)

COUNTY OF .....
} ss.:
STATE OF .....

Acknowledged and sworn to before me this ..... day of ....., 19....

Notary Public

C. A. YOUNG
In charge of Standardization work for the American Petroleum Institute.

Officials Chosen

Plans are now to have a meeting of both the general and individual standardizations committees in June. At that time many of the reports now in process of completion will be presented for the approval of the board of directors of the institute. All the committees now functioning should have work completed by the next session of the institute.

Officials of the institute were elected as follows: J. Edgar Pew, vice president of the Sun Oil Company, Dallas, president; E. W. Clark, Union Oil Company of California, Los Angeles; Frank Phillips, Phillips Petroleum Company, Bartlesville; and Edward Prizer, Vacuum Oil Company, vice presidents; A. L. Beaty, treasurer; R. L. Welch, secretary and general counsel; W. R. Boyd, Jr., assistant secretary and counsel; Lacey Walker, assistant treasurer.

The executive committee is composed of J. Edgar Pew, E. W. Clark, A. L. Beaty, W. N. Davis, George S. Davison, E. C. Lufkin, Edward Prizer, Frank Phillips, A. C. Bedford, Robert W. Stewart, H. L. Doherty and Thomas A. O'Donnell.

The executive committee is composed of F. B. Henderson, J. C. Donnell, J. D. Collett, J. F. Lucey and Herbert L. Pratt.

The next meeting of the institute will be held in California but the city is to be selected later.

Henry L. Doherty Has Producer Cure-All

Head of Cities Service Company proposes governmental regulation at marketers meet in Cleveland

IN his address before the National Petroleum Marketers' Association on November 19th, in Cleveland, Mr. Doherty outlined his proposed plan for regulating crude production, briefly as follows:

Common Operation Legislation

"The legislatures of many states have already recognized the necessity for special legislation on matters of lesser importance than this and where the inequities of individual operation were not as shocking as in oil pools and the courts have sustained this legislation. You will find a mass of special legislation on the common operation of properties.

"You will be interested perhaps in studying the special legislation regarding irrigation and drainage districts where the owners of land are compelled by law to pool their interests and to operate as a district if the majority so elects. The plan I have advocated for the production of oil goes no further than to use the same character of legislation than has already been used for these irrigation and drainage districts and this special legislation has already secured the sanction of our courts."

Proposals To Be Considered

"I would propose, first—that no one should be allowed to drill for oil without first receiving a State permit to do so.

"Second—that nobody would be given a permit to drill for oil until an exploration district had been established.

"Third—that the exploration for oil should be restricted to that part of the exploration district one-half mile inward from the outer boundaries.

"Fourth—that the strip of one-half mile within the outer boundaries of the district should not be drilled for a period of one year after oil or gas had been found in commercial quantities or sooner but not or until the exploration district had been enlarged or another district had been established adjacent to it and that the contractors on the two districts—if separate districts are formed—should not attempt to drill either half mile strip until they had agreed on a plan on which it should be drilled, and failing to agree upon a plan, then the State Engineer could specify the plan suggested by either contractor or a plan of his own.

Fifth—that royalties should be paid to the trustees of the district and they would settle with the individual land holders according to the calculated amount of oil or gas underlying each man's land.

"The above represents the principal points of the plan I have recommended for the production of oil.

"It has been urged that you cannot make equitable division between the different land owners because you cannot accurately determine how much oil or gas originally laid under each man's land. It is true that this cannot be determined with exact accuracy but we are not governed in the matter by the necessity of securing exact equity but are only governed by striving for the highest possible degree of equity and we can easily get a higher degree of equity than now exists. No petroleum engineer who has yet discussed this matter with me has failed to agree that under the plan outlined above we can make a more equitable division of oil than is now possible. Not only that, but every petroleum engineer with whom I have discussed the matter agrees that a very much greater amount of oil can be recovered from the sand than is now possible. In my opinion we can on the average recover at least double as much oil as we do now. Not only this, but this oil can in many cases be brought to the surface without the expense of pumping. In addition to this practically all of the gas in the pool can be conserved and will in some cases have a greater value than the oil that would be recovered from the pool under present methods. If the oil is not forced upon the market when the market cannot take it, it will also command a much higher price.

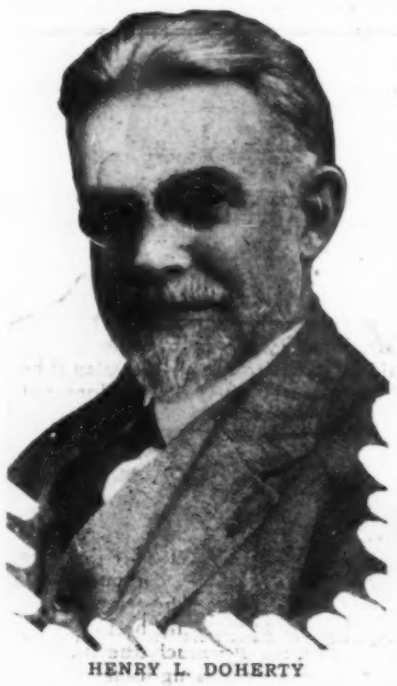
"Now, if there is a greater recovery of oil, a conservation of all the gas and a higher price received for the oil, then whoever fares the worst under the new plan of operation is still better off than if he had gotten better than his share under the present plan of operation.

"Of course it would always be possible if done with unanimous consent for the land owners of any exploration district to either divide the proceeds from the pool ratably for each acre of the land embraced in the oil exploration district, or ratably for each acre of land producing gas or oil in commercial quantities. If dividing the oil according to what originally underlaid each man's land as an undisturbed pool led to delay and litigation the tendency would be for the land owners to agree in advance on some other form of division.

Inequity of Present Methods

"Calculations by petroleum engineers indicate that under present methods it is possible in some instances for land owners to get as much as thirty times as much oil as they are entitled to. No such degree of inequity could exist under the plan outlined above. The waste and other evils which characterizes our operations under present methods cannot be justified by the mere piffling statement that sufficient degree of equity does not exist under the proposed system.

"So long as we operate under the present system we will be unable to prevent either an over supply of oil or a shortage. We cannot create ground resources in a true sense or as it is true with all other mineral products. So long as these conditions prevail our business will be subjected to violent fluctuations. So long as these violent fluctuations prevail the public will believe our industry is either grossly mismanaged or grossly manipulated. So long as these conditions prevail nobody will be willing to adopt and use our heavy products for fuel and pay for them at their real value so long as the present uncertainty of supply exists."



HENRY L. DOHERTY

H. C. George, petroleum engineer of the Department of the Interior, who has been in charge of the Ardmore, Oklahoma, field office of the Bureau of Mines, has resigned to accept a position as director of petroleum engineering at the University of Oklahoma. Mr. George has been succeeded by Frank M. Brewster, formerly assistant deputy supervisor at the Taft, Calif., office of the Bureau of Mines, who will conduct the work of studying development problems in the southern Oklahoma oil fields.

Beaty Tells A. P. I. That It Won't Work

Texas Company official explains obstacles of such an idea to leaders at Fort Worth meet

IN referring to the proposed Doherty plan, as outlined on the opposite page, Amos L. Beaty, president of the Texas Company, told members of the American Petroleum Institute in Fort Worth that to him the idea held considerable appeal, "as something to dream of, but that it is quite another thing to revolutionize a great industry".

Mr. Beaty was emphatic in his denouncement of the logic of such a proposal on the grounds that the industry could not have developed as it has developed under that kind of a system, and after dealing at length with the legal obstacles confronting such a method of oil production, the Texas Company official went on to show how the industry in its present large proportions could not consistently change its entire system of operation without disastrously disturbing its many coordinating branches.

Mr. Beaty's discussion of the Doherty plan before the A. P. I. was in part as follows:

"At times when production has exceeded consumption and the profits in the business for the moment were small, some of our friends and fellows, groaning under the burden of riches that could not be cashed, have been disposed to criticise the system and feel that if we were only operating under governmental concessions we might fare better. Their thought was that a wise government would not countenance an economic waste of this valuable product. Again, they have felt that under a system of governmental concessions oil pools would not be split into fractions and turned over to dozens or hundreds of different operators, each vying with the others as to how much could be taken from the earth within the shortest limit of time, but that orderly and economical development would obtain. Against the force of this logic, we must place the everlasting fact that I have had occasion to avert to on previous occasions, namely, that the industry would not have developed as it has developed under that kind of system.

Takes Up Plan

"Mr. Henry L. Doherty recently delivered at Cleveland a very interesting address in which he advocated the inauguration of a new system whereby in the future oil pools would be developed and operated as units. He advocated the enactment of state legislation to the effect, stated in his own words, as follows:

"'First—No one should be allowed to drill for oil without first receiving a state permit to do so.

"'Second—Nobody would be given a permit to drill for oil until an exploration district had been established.

"'Third—Exploration for oil should be restricted to that part of the exploration district one-half mile inward from the outer boundaries.

"'Fourth—The strip of one-half mile within the outer boundaries of the district should not be drilled for a period of one year after oil or gas had been found in commercial quantities or sooner, but not or until the exploration district has been enlarged or another district has been established adjacent to it and that the contractors on the two districts, if separate districts are formed, should not attempt to drill either half mile strip until they had agreed on a plan on which it should be drilled, and failing to agree upon a plan, then the state engineer could specify the plan suggested by either contractor or a plan of his own.

"'Fifth—Royalties should be paid to the trustees of the district and they would settle with the individual land holders according to the calculated amount of oil or gas underlying each man's land.'

"This same plan was submitted by its author, as he says, to a committee of the Institute more than a year ago, I served as chairman of that committee, and with me were a number of leading men in the industry, including Mr. Doherty. I do not know what happened before the committee was appointed, but I do know that we considered the plan and found ourselves unable to concur in it. My recollection is that there was not a single convert.

"I cannot agree with Mr. Doherty's view that it was not sufficiently studied or understood. He is always forceful, besides being an excellent fellow, and he held none of his logic in reserve when presenting this plan. I have said this much in view of observations made by Mr. Doherty in his speech indicating that his plan had not been duly considered. And now I propose to discuss the plan, speaking for no one but myself, and tell you why I am against it.

"Mr. Doherty has ignored details. It would be easier to discuss the plan if he had been more specific. He does not say how far he would have his proposal apply to pools already in production, or how existing leases would be treated. The cardinal feature of the plan is a requirement for the organization of development districts in analogy to drainage or irrigation districts. It involves, of course, the idea of compulsion as against land owners who may object. Of necessity there would be a governing body, through which the districts would function in making leases, apportioning royalties, and otherwise carrying on.

"As I have indicated before, the owner of a tract of land owns the oil in the rocks and sand beneath the surface within his boundaries. He has the right to drill wells, extract the oil, and appropriate it. In the absence of statute to the contrary, he may take not only the oil that normally rests within his own boundaries, but his wells will start a movement of oil in their direction, and he is free when it reaches his land to take oil which was his neighbor's. He is in position to say, if we may change Shakespeare's words, 'T'was his, 'tis mine, and will be slave to thousands'. This is the law as it generally applies in our country at the present time. It is seen that when a land owner or his lessee drains adjoining land, he gets something to which he is not morally entitled. He may be legally entitled to it, but this legal right is not inherent or fundamental. The taking is not so much a right as the adjoining owner's loss is damnum absque injuria. The courts from the beginning have merely balked on the remedy in such cases, seeing that the adjoining owner was at liberty to protect himself by drilling on his own land. If, therefore, the legislature should say that future pools shall be operated as units for the common benefit of all owners, in proportion as their lands contribute oil values, it might be conducive to justice rather than injustice, provided the scheme were workable in all respects. It has been my opinion for a long time that a valid statute might be enacted defining the minimum drilling site as, say, 10 acres, with discretion lodged in some supervising authority to vary this in accordance with formations and other physical conditions in different pools, prohibiting the drilling of wells within a specified distance of boundary lines, so that wells could not be drilled on fractional sites or town lots until they should be consolidated into full drilling sites, with some provision whereby the owners of such fractions might receive drainage money in lieu of their right to drill. But even that would involve many details and possible complications, and perhaps it is 'better to endure the ills we have than flee to those we know not of'. Such a law would be based largely upon the idea of justice between land owners and not solely upon the prevention of waste No one owning a plot of ground just large enough for the four corners of a derrick should have the right to sink a well which in the very nature of things unduly drains the surrounding land or else forces unreasonable expenditure in offsets. That element does not exist in the Doherty plan, because in ordinary

development the adjoining land owner has fair means of self protection in his hands.

"I think there are insuperable difficulties standing in the way of the Doherty plan. The first are those of a legal nature, and they appear at the very threshold. So far as established pools are concerned there can be no argument; the proposed enactment would impair the obligation of contracts, would take property without due process of law, and would be unconstitutional. Almost the same can be said in regard to territory merely under lease—and where could one find any territory at this time where the lease hound has not been? But let us assume that there is virgin acreage somewhere and proceed with the study. Is there a precedent? Have we a chart or a compass? The analogy to drainage and irrigation districts is imperfect. The only point of similarity is the local option, the voting or what not, the district organization. Drainage and irrigation districts involve, as against non-consenting land owners, the imposition of assessments which result in somewhat uniform benefits. They do not interfere with the owner's use of his property, but on the contrary facilitate him in that use, whereas the creation of the oil district would mean an involuntary pooling of estates, and at least an interference with established right and method of use now vested in the individual land owner. As strange as it may seem to oil men, there are citizens who would prefer orange groves to derrick sites, especially if the latter meant small wells or doubtful profit. But the vested right that I meant to refer to is the right of the owner to develop his own land or have it developed in his own way for oil, the adjoining owner being in fair position to protect himself against drainage. It is no answer to say that the owner would profit in the long run. In that theory a paternalistic government might order its farmers in a period of over-production to desist from planting specified crops and console them by the statement that they would profit ultimately. That sort of thing is contrary to the spirit of our institutions; it is vicious in principle. We do not need a precedent for something that is good, and we need no chart or compass when beckoned to green shores in sight, but deliver us from making bad precedents and from stormy voyages in the dark.

"I have mentioned the impossibility of including pools already developed, and the nearly if not quite similar status of territory merely under lease, which, assuming that the plan could be made applicable to untouched areas, brings me to the crowning anomaly of the thing; we would have the old system in this part of a township, the new system in that part of it, and a zig-zag zone of the twilight type between. But I shall go a little further and discuss some of the practical details of the plan as I understand it, assuming still that there is territory to which it could be applied without violating the constitution. I want to come right down to cases and show how impractical it is. Let us consider the procedure step by step after the law is passed. The first step is the creation of the district. Who will put the ball in motion? We assume that the law is faultless and provides all the machinery. Some one must take the initiative. Will it be a land owner, an oil man, or a promoter? His mission would be to start the steam roller over what has been regarded as private rights. We cannot assume that everybody would agree, for if it is a mere matter of agreement there is nothing new. An area is to be selected, the first well is to be located, the district boundaries are to be fixed. Can we assume that a wise and fair minded expert would arrive at the psychological moment? The odds favor the negative. Perhaps a sufficient number of experts could be found in the oil industry, but they would not be disinterested. An attractive prospect, and it might resolve itself into a race. I suppose that among the thousand and one details of the legislation there would be provision for contests between different individuals and groups who might be trying to establish districts. The oil companies that are seriously engaged in the business would certainly have a new line of activity. The breeding of race horses would be stimulated. Then think of the election of trustees to manage the district. Land owners and not oil experts would attend to this, and we could expect some primary-election politics. Instead of competition in negotiating with individual owners for leases we would have that other kind of competition wherein one of the participants is a trustee and does not represent himself. Those who believe in honest graft could ply their trade. The idea doubtless is that a single company would operate an entire pool. Otherwise, and if pools are divided up into separate parts under several leases, the mischief sought to be remedied would continue. The only way to prevent its continuance under plural leases would be for the trustees to pass upon the drilling of every well and hold the scales level between the different leases. This would require technical knowledge which the trustees could not be expected to possess.

"I shall not discuss the probable effect upon the small operator, who is entitled to his place in the industry, a place which he has earned, and I shall not dwell upon the dilemma of companies having large investments in plant which they are entitled to protect through a free hand in obtaining the raw material at locations where it can be used economically, or the effect upon them of a system which would place it in the power of others to put them out of business, for too much analysis would weary you unduly, and moreover your minds have doubtless traveled over the ground. But I cannot refrain from pointing out one further objection. This objection would appeal most strongly to land owners. I refer to the apportionment of royalties, which I may say incidentally would be a judicial function. The plan contemplates the inclusion of large areas in districts, much more than the actual oil bearing acres. Some of it may be rich, some of it may be poor, and some of it will be worthless. There are numerous land owners. No equitable apportionment of royalties could be made until the pool was exhausted, and no fair approximation would be possible until it was near that stage. And what applies to royalties would apply also to bonuses and rentals, if one can think of them in connection with this plan. Orators are wont to speak of generations yet unborn and of children's children. They mean those who would receive these payments.

"I admit that the plan rather appeals to me as something to dream on, but it is another thing to revolutionize a great industry. The petroleum industry of this country has developed under our present system. All other branches and divisions are built around the producing business. The producing business as it stands today and as it promises to progress in the future to meet the requirements of our country has its mud sills in the present system. In place and time and appointment it conforms to this system. The other branches of the industry are co-ordinated with it, and to shake or shift it would disastrously disturb them. It is too late to talk about changing. One might as well figure on diverting the Colorado river where it runs through the Grand Canyon of Arizona."

Chattanooga, Tenn., Dec. 16.—An announcement made by the Lucey Manufacturing Corporation of Tennessee, states that that company has no connection whatever with the Lucey Manufacturing Corporation of New York, which latter concern is now in bankruptcy.

The Tennessee organization is independent and is owned by a group of Chattanooga men. It is thriving financially, doing a good business.

Walter Black, head of the Standard Oil Company's production department in Southern California, and O. O. Allen, head of the Standard's pipe line system in Southern California, departed from Los Angeles last week for Fort Worth to attend the A. P. I. meeting. They will also visit Wortham to see a Texas oil field during a boom.

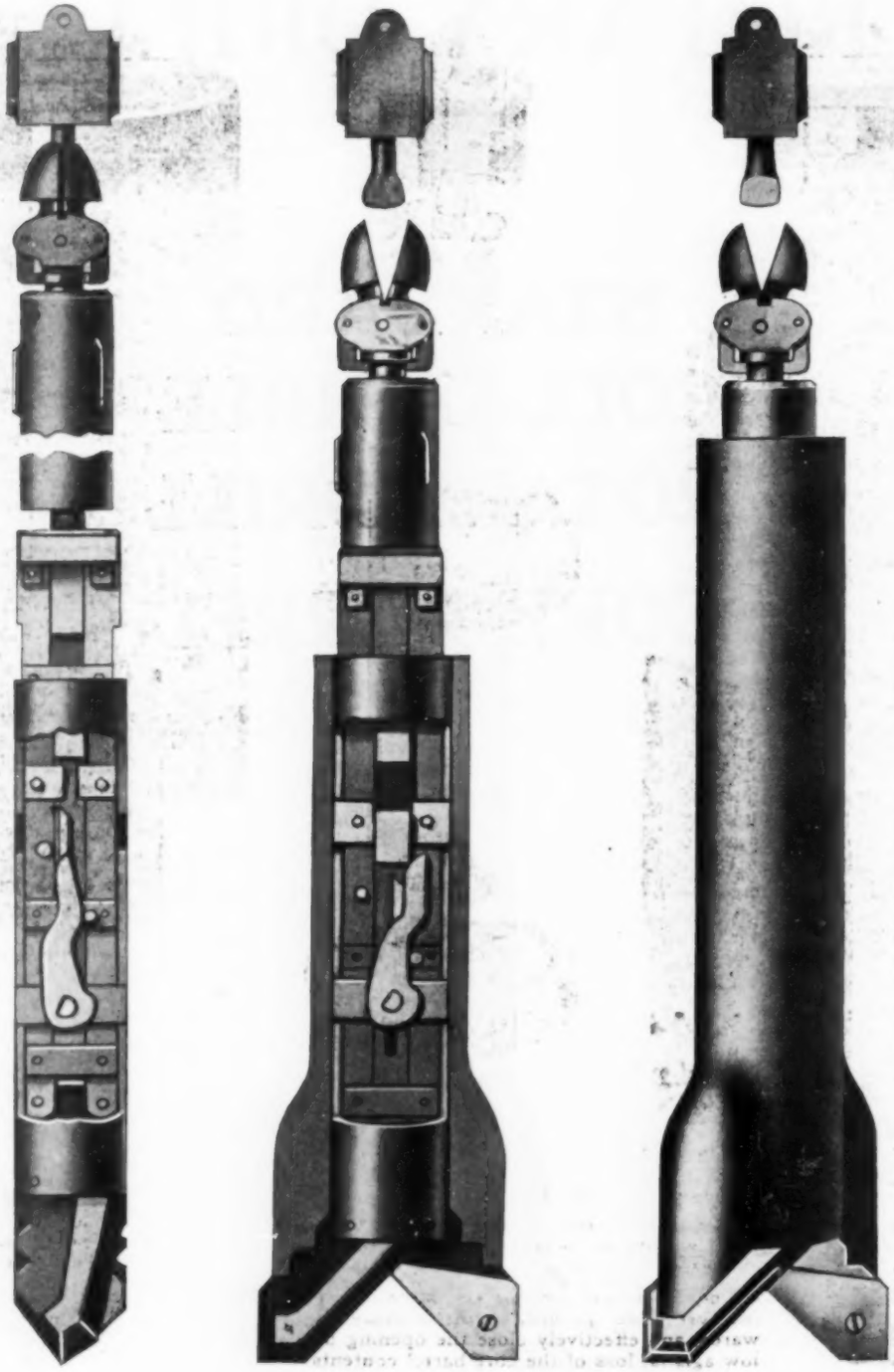
Hollis Porter, production engineer for the Gypsy Oil Company, headquarters at Tulsa, Okla., is spending several days looking over the fields of California, radiating out of Los Angeles.

A REVOLUTION IN ROTARY DRILLING

The STANDARD COLLAPSIBLE ROTARY DRILL AND CORE BARREL

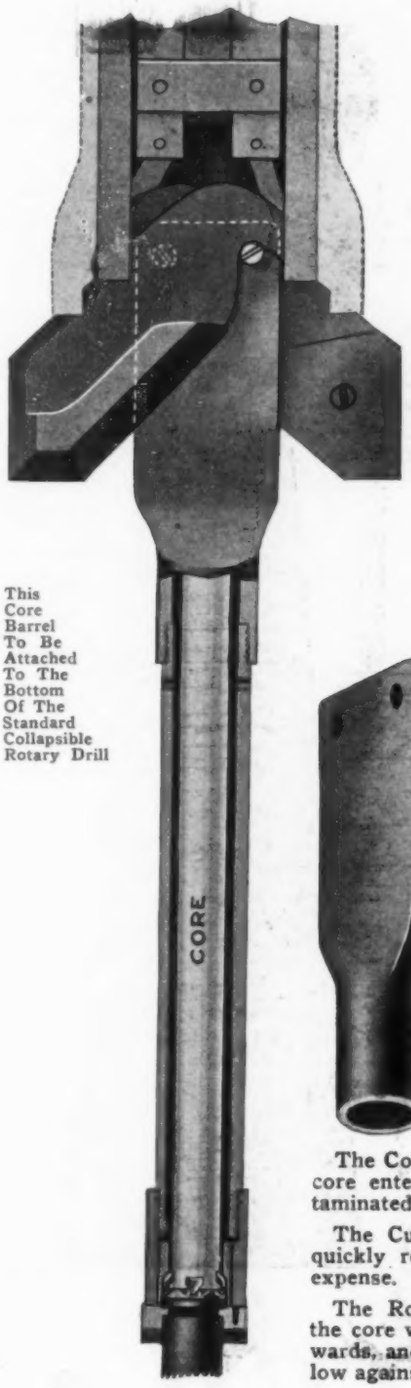
THE STANDARD COLLAPSIBLE ROTARY DRILL makes tool joints unnecessary and prevents scarifying the hole, bridging and cave-ins. Prevents boulders from falling into the hole as it eliminates the necessity of pulling the drill stem from the hole when changing bits. The bit is attached to a cable and lowered inside the drill stem to bottom of the hole where it expands to required diameter, and is securely locked in position.

CHANGE BITS WITHOUT

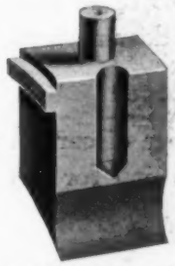


When the bit is lowered the cable cannot be withdrawn until the bit has expanded and become locked in position. The drill stem is not removed from the hole until the hole is completed. When the drill becomes dull a lifting tool is lowered by cable inside the drill stem and grips the top of the drill, when a pull upward collapses the cutters and brings them to the surface for sharpening.

PULLING DRILL STEM

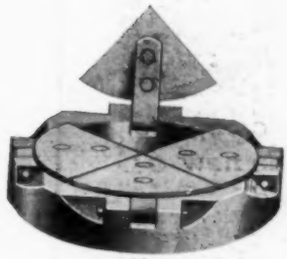


This Core Barrel To Be Attached To The Bottom Of The Standard Collapsible Rotary Drill

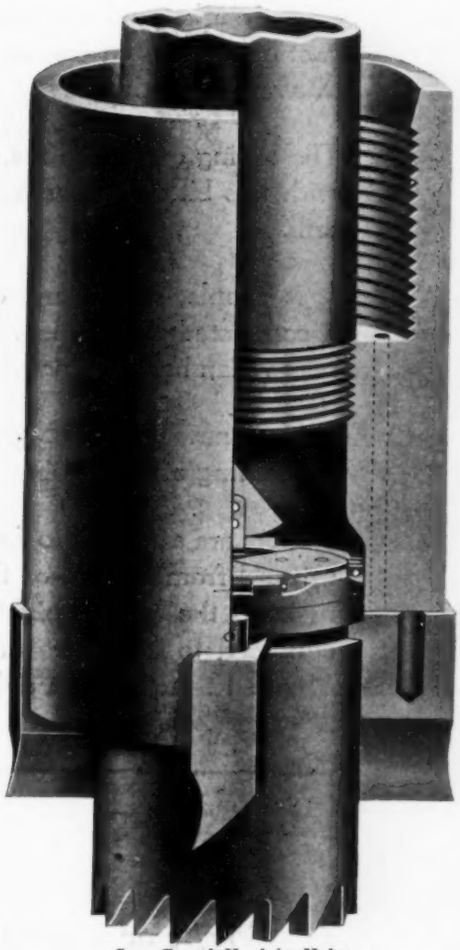


Loose Cutter for Either Core Barrel

Rock Trap



Sand Trap



Core Barrel Used in Holes Drilled With Fishtail Bits

The Core Barrel is so contructed that the core enters the barrel without being contaminated by cuttings from above.

The Cutters are removable and can be quickly replaced when dull at a nominal expense.

The Rock and Sand traps firmly grasp the core when the drill begins to move upwards, and effectively close the opening below against loss of the core barrel contents.

The Standard Collapsible Rotary Drill and Core Barrel are fully covered by Patents already issued and Others Pending.

The drill is very simple in construction and is made of the best steel used by manufacturers for the highest grade automobiles; it will successfully resist impacts from boulders extending into the hole, that occasionally twist off a drill stem. The loose cutters are made of steel expressly manufactured for this drill and are scientifically heat treated, which assures exact uniformity in hardness.

SAVES TIME AND MONEY

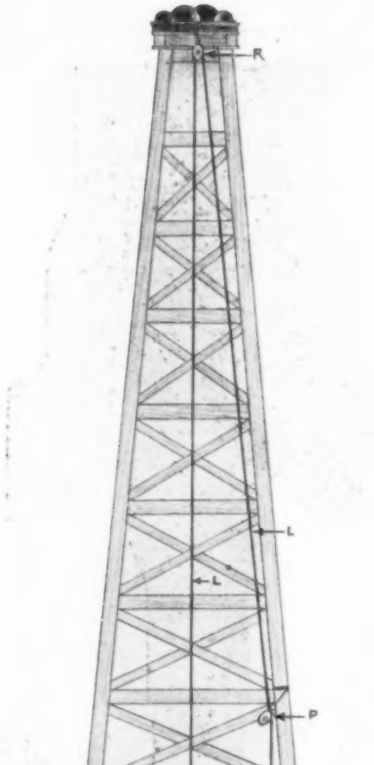
It will "make hole" faster than any drill now on the market and will save from 25 to 40 percent of the present cost of putting down a well of average depth.

The saving on tool joints, which are discarded with this bit, will save enough to pay for the drill.

It is simple, strong and efficient and assures a completed well in less time and at less expense than has been possible up to this time.

Cost of new cutters about the same as cost of sharpening a fish tail bit.

Cutters are arranged to form a cone, extending upward from bottom of the hole, which tends to keep the hole straight. The drill can be equipped to cut holes of any diameter from 6½ to 12 inches with a 4 inch drill stem.



Write or wire us for complete information on this new and improved rotary bit.

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Pumping Deep Wells in California

Improvements in equipment and methods brought before A. P. I. session at Fort Worth

By John A. Zublin,
General Petroleum Corporation

ALL calculations referring to the possible production of an oil sand are so uncertain that no conclusion can be drawn as to how much oil there is available for each individual pumping well.

All tests and experiments on pumping wells are purely comparative and the best pumping equipment is the one which will produce the largest amount of oil at the smallest lifting expense.

There has never been much change in the construction of pumping equipment. When oil was discovered and the necessity to pump it out of the well appeared, it was logical to use the same type of pump which had been successfully applied to the pumping of water wells. This equipment consists of a string of tubing, a working barrel placed at the bottom of the well holding a hollow plunger which, by means of rods, or cables, is moved in a reciprocating motion inside of this barrel. An inlet valve (standing valve) at the lower end of the barrel and an outlet valve (traveling valve) fastened at the top or at the bottom of the hollow plunger are the main features of the construction. Every up stroke of the plunger creates a vacuum between the two valves causing a flow of liquid from the outside into the barrel and every down stroke of the plunger creates a pressure between the two valves causing the liquid to flow through the traveling valve into the string of tubing.

This simple pumping machinery has been in use ever since, and while the pumping wells steadily increased in depths, the same type of plunger pump seemed to satisfy pumping conditions.

A large number of patents referring to oil well pumps have been granted in recent years, many of them show improvements in pumping methods, but very few of the numerous inventors have made a serious effort to carry their new ideas through a number of extensive tests and experiments into practice.

The California operators have continued to use in deep wells the ordinary type of plunger pump with more or less success.

Everybody seemed to take for granted that most of the pumping troubles due to excessive fluid pressure, sand and gas action, etc., were unavoidable, and that the frequent replacements and repairs of pumps and pump parts were simply part of the game.

Pumps were built of better steel and all parts were finished with greater accuracy, but there was not much tendency to improve the principle of the pumping apparatus.

Old Equipment Fails

When the deep wells in several oil fields of the Los Angeles basin, particularly at Santa Fe Springs, ceased flowing, and were put on the pump, it was found that the ordinary pumping installations were not sufficient to lift the oil, the wells in many cases refusing to yield any oil whatsoever. It then became an urgent necessity to take immediate steps to find a solution for this baffling problem.

Prior to this time the writer had started to make some investigations on pumping equipment with special attention to plungers and working barrels. For a period of over two years and until the end of 1923 these experiments and tests were carried on in both the Los Angeles Basin and the Midway fields, largely in wells of the General Petroleum Corporation.

The conclusions resulting from all of these tests and experiments might be expressed as follows:

There are three possible methods of producing oil from a non-flowing well.

First—By mechanical means, the pumping machinery in the derrick, the power transmitted by mechanical connections, rods, cables, etc., to the pump submerged in the fluid.

Second—By means of compressed air or gas re-establishing the flowing conditions of a well, raising the fluid to the surface by means of aerated columns moved by the velocity of compressed and outflowing gases or air.

Third—By other means, such as hydraulic and electric power transmission.

Method No. 3 may be discarded immediately, as there are no proven constructions known which would adapt themselves for the purpose.

Method No. 2 may be discarded temporarily as it has not a general adaptation to pumping wells, nor has it any immediate possibility of a practical and efficient solution.

The remaining method (No. 1) was therefore analyzed in detail and investigations were made on its items according to the following diagram:

On the Surface

Power plant—No improvements proposed.

Power transmission, countershaft, band wheel, crank, walking beam—No improvements proposed.

Number revolutions—Increase if desired.

Length of stroke—Increase if desired.

Connection between beam and rods—Adaption of rectilinear motion.

Counter balance—Carefully balanced.

In the Hole

Sucker rods—No improvements proposed.

Tubing—No improvements proposed.

Barrel—No improvements proposed.

Plunger—Less leakage, more resistance against sand and impurities, longer life, better drop, full length of stroke, better valve arrangements against gas action.

Standing valve—No improvements proposed.

Gas Anchor — Standardization of openings.

The customary types are individual power plants driven by electricity, gas or steam or central power stations with pumping jacks. All types have their well-founded merits, giving good service, not requiring any immediate change or improvements.

Power Transmission

At first sight it seems to be unreasonable to move with an individual power plant and two belt drives, a countershaft, a band wheel, a crank, a pitman and a walking beam for the purpose of causing a reciprocating motion of the sucker rods. Considering, however, the necessary additionl work which must be done so often in deep wells, such as pulling tubing, cleaning out the hole, fishing for rods and tubing (most of them rush jobs), it is very difficult to construct any more simple and practical equipment for such an all around service. Many devices have been constructed which will act directly upon the sucker rods without moving "all the heavy timber" and which naturally will show a slightly better efficiency. But most of these devices must be discarded when the above mentioned additional work is performed so that such special direct acting pumping machinery will never fully replace the approved and reliable walking beam.

It is true that the motion of the walking beam imparted to the sucker rods is not ideal. The elasticity of long strings of rods in deep holes combined with the abrupt reversing motion from down stroke to up stroke of the walking beam endangers the rods; but several devices, mostly connected with crank and pitman effectively overcome this defect. A simple and practical apparatus which will reverse from the down stroke to the up stroke gradually and without violence is very desirable, and might do good work in many fields.

One way to reach that purpose is described further in the next chapter.

A correctly counterbalanced beam with a sufficiently large fly wheel on the power plant speeded up to its highest practical speed often does wonders, and it is advisable to try such a simple remedy before considering radical changes in the machinery.

From the viewpoint of standardiza-

tion of rigs, rig irons, general equipment and uniformity of operation it is further desirable not to change the existing installation too much.

Revolutions and Stroke

The easiest way to increase production with a given installation is apparently to increase the number of revolutions and length of stroke. However, the well known fact remains that an increase of two or three strokes per minute or an increase of six or twelve inches per stroke often causes more trouble and more interruption in work than the gain in production warrants. Elimination of this trouble depends on the correct action of the plunger in the working barrel, and it is only detrimental to good production to speed up the walking beam when the plunger in the barrel does not readily follow.

The largest obtainable production depends entirely upon the number of linear feet of up stroke or lift which the plunger inside of the barrel travels per minute. If a plunger travels thirty inches with twenty-seven revolutions of the crank (equal to 810 linear inches of lift) it will make less oil than a plunger which travels forty inches at twenty-two revolutions (equal to 880 linear inches of lift per minute).

All depends, therefore, upon the effectiveness of power transmission from the beam through the sucker rods to the moving pump, and the most efficient pump will be the one which has the smallest loss in pumping stroke.

The plunger must drop easily and it might be advisable to run a sinker on top of it, which will furnish the necessary weight to drive the plunger rapidly enough through the oil to eliminate a compressive strain on the rods and their consequent early fatigue.

About 300 feet of sucker rods would be required to furnish enough weight to drive a plunger with the necessary speed downward through the oil and to overcome its friction against the walls of the barrel. This with the assumption that a pressure of about 400 pounds is necessary to accomplish this purpose. Naturally such a string of rods exposed to compression will virtually coil together inside of the tubing, starting on the upward motion while the plunger itself is still traveling downwardly reversing it with such a violent shock that the rods are very liable to part.

Long stroke pumping devices will be more effective when steps are taken to have the plunger in the barrels willingly follow the full length of the stroke.

There is no question that for a number of deep wells with large production a long stroke pumping device will increase production to such an amount as to pay for the additional purchase price, in a short time.

The most practical and economical solution is probably the installation of a crank with a fifth hole, a general practice in several mid-continent fields.

The adoption of a device which will insure the polish rod a rectilinear motion will further benefit a longer stroke pumping motion with the present standard equipment.

Counterbalance

Incorrect counterbalance is a source of power loss and troubles. A number of extensive tests with a dynamometric self-registering apparatus placed between the beam and polish rod, have proven that the most satisfactory moment of counterbalance is about equal to 80 per cent of the combined momenti of weight of the sucker rods, weight of the fluid, friction of the fluid against the tubing plus momentum of oil column during the reversion from down to up stroke.

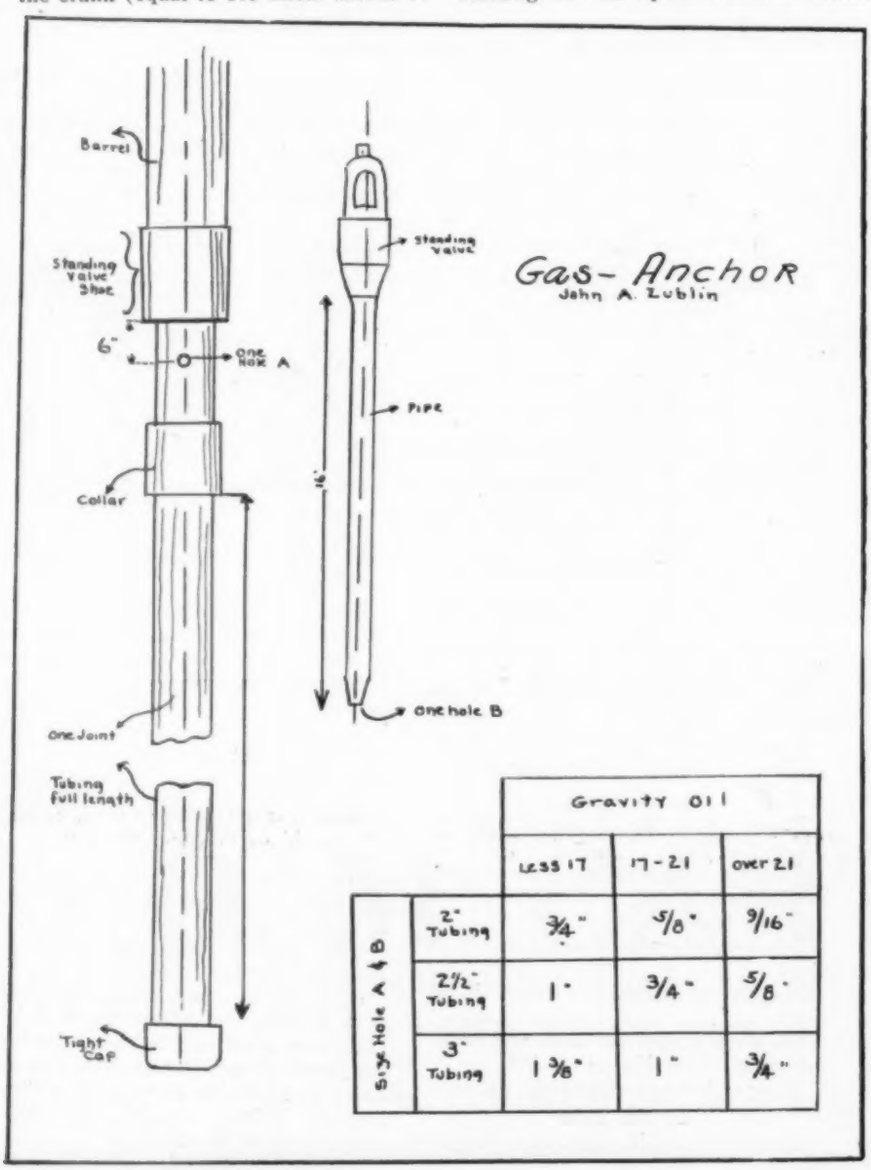
The operator in the field can, however, without any mathematics, ascertain the correct counterbalance with enough accuracy by adding so much weight to the counterbalance that the band wheel and the crank will slowly stop at its lowest point. This has the advantage that the pump inside of the barrel stops at its highest point preventing the pump from sanding up, making the first pumping stroke a down stroke and not as usual an up stroke.

The customary way of using concrete blocks as counterweights is satisfactory and economical.

Sucker Rods, Tubing and Working Barrels do not demand immediate improvements and are sufficient to perform good service in deep wells around the 5,000-foot mark.

The Leakage of a Plunger contributes largely to the inefficiency of an oil well pump placed at great depth. The accuracy of a ground fit between the plunger and barrel has its limits and the liquid which rests upon the plunger with a total pressure varying from 500 to 3,000 pounds or more per square inch, has an enormous tendency to squeeze through the smallest fissures.

The total pressure which an oil column over 4,000 feet in height exerts on the plunger is about 2,000 pounds per square inch fluid weight and about an additional 1,000 pounds per square inch for the pressure which the momentum of the fluid column exerts onto the



Size Hole A & B		Gravity Oil		
		Less 17	17-21	over 21
	2" Tubing	3/4"	5/8"	9/16"
	2 1/2" Tubing	1"	3/4"	5/8"
	3" Tubing	1 3/8"	1"	3/4"

plunger when the moving fluid column on the down stroke reverts suddenly into the up stroke. This momentum depends largely upon the amount of fluid which the pump handles, the length of the stroke, the number of revolutions, the violence of reversion of motion, and the gravity of the oil.

The steel plungers mostly in use have a ball and seat traveling valve on top of same, and the tendency of the compressed fluid is to squeeze in between the walls of the plunger and barrel with resulting compression of the plunger and expansion of the barrel. This of course is very undesirable. It is natural, then, that the best fit obtainable by careful grinding of the barrel and plunger becomes inefficient under these pressures and the fact that the plunger and barrel recover their original conditions on the down stroke of the pump when the pressure of the total liquid column rests on the standing valve make these conditions still worse, for then the original tight fit handicaps an easy drop of the plunger reducing the full effectiveness of the pumping stroke.

In fact, the situation ought to be reversed. This can be done, by adopting a steel plunger with the same ground fit but with thin walls and with ball and seat traveling valve placed at the bottom of the plunger. The total liquid pressure will act internally, expanding the plunger considerably more than the more resistant barrel, driving the thin walls of the plunger so tightly against the walls of the barrel that the most perfect fit is obtained while the plunger is submitted to the liquid pressure during the upstroke of the pump. The plunger and barrel will wear into each other, by choosing the right materials, to a mirror-like polished surface of both pieces. As this type of plunger will slightly shrink together under the absence of the liquid pressure it will drop easily on the down-stroke of the pump, enabling the operator to run an efficient long stroke and a fast pumping motion.

Reducing Pressures

An additional way to increase production by overcoming excessive leakage of plungers is to reduce excessive pressures. The amount of liquid which flows through a leak will increase as the square of the increase of pressure, and the division of the total liquid pressure—say one-half—will therefore reduce the leakage of a given plunger to one-fourth.

This theory leads to the principle of more than one single plunger wherein the leakage will not only be reduced in the above mentioned ratio, but wherein each additional plunger will absorb the leakage from any neighboring plunger.

Many experiments have shown that the only way to reach this desired effect is to space the individual plungers so close together that the amount of fluid trapped between them is as limited as possible. The slightest leakage will build up the pressure in this small amount of liquid to the extent that a back pressure will be created which will be sufficient to reduce the total difference of pressure between upper and lower end of each plunger. This will stop or at least reduce the leakage.

The average time of a pumping up stroke is slightly more than one second and if any leakage based on the above multistage principle can not be stopped within a small fraction of this second the system will be useless and the pressure of the total oil column will rest upon the one plunger with the best fit.

Multistage pumps of this type have been built in two, three and even four stages and have performed successfully in deep California wells.

The Length of the Plunger is a very important item. Most plungers are several feet in length following the principle of a stuffing box where length and efficiency is supposed to be the same thing. Temperature and pressure at the bottom of the well have a detrimental influence on the straightness of such a long, one-piece, ground-to-fit plunger. It will be deformed by these temperatures and pressures and the perfect alignment which plunger and barrel had in the shop might be lost when the pump is put in the well. The rigid barrel will naturally hold the plunger straight, but its tendency is that of a compressed spring and more friction may be created on one side than on the other, causing the parts to wear irregularly or to an egg shape, reducing the efficiency of the stroke and decreasing the good fit of plunger and barrel.

Sand in the Oil

The pumping of sandy wells has always been a great problem, in fact sandy wells with the presence of water have often given so much pumping trouble that many of them are temporarily abandoned.

Sand and other impurities have a detrimental effect on the long one-piece plunger. Sooner or later one or more grains of sand backed by the great fluid pressure will be driven between the two surfaces of the plunger and barrel and the only way to prevent these grains of sand from doing too much damage is to remove them as quickly as possible. This requires a plunger shorter than the shortest pumping stroke, thus enabling a grain of sand to work itself out on the other end of the plunger.

All depends on keeping the sand from settling in the moving parts of the pump and this can be done by forcing the oil through the pump in such directions and with such speed that the sand is carried along with the fluid.

The capacity of a liquid to keep sand flowing increases as the square with its flowing speed, and a pump with uniform openings and high flowing speed will be "self-washing" and not become blocked by sand.

Notoriously bad sand wells in California have been pumped successfully with a pump constructed in accordance with this theory, with the result that more than one operator became so enthusiastic about its performance, that he immediately lowered the tubing into the fluid, for the purpose of increased production. Several times with the ironical result of blocking the whole pump again, due to the sand which by this time had filled the tubing for the length of several joints, packing so tightly around the sucker rod boxes, that any pumping motion had become virtually impossible.

Large areas, small velocities, and a complete standstill of the fluid, or reciprocating motion of the oil column in the tubing were the cause for the settlement of sand.

In such extreme cases it might be necessary to keep up a continuous circulation of oil through the tubing speeding up the oil to carry along the sand. This can be done by replacing the sucker rods with a smaller string of tubing placed inside of the usual tubing, moving the pump in the usual way and permitting an additional circulation of oil from the top of the derrick. An additional pump on top of the ground is necessary to keep the circulating oil moving which naturally makes this installation quite expensive.

Longer life of plungers is desirable and a higher grade of steel is considered an improvement. The best results have been obtained by using a working barrel with cast iron liners of good quality and plungers with a glass hardened surface, heat treated in an adequate process.

This matter has partly been described in previous paragraphs and it can be obtained with a number of short plungers in the following way: As it is not possible to assemble in perfect alignment, a number of plungers, it has been necessary to construct a flexible joint inserted between two plungers. This joint enables them to move independently so that they adjust themselves freely to the working barrel, which itself might not be perfectly straight. In fact such a joint which acts also as a coupling between two plungers has made the system of a multistage pump possible.

Gas Action

The action of free gas in pumping wells has been the subject of extensive studies, for it seems to be incomprehensive why gas, which is the most valuable source of energy for a flowing well should be detrimental to the production of the same well when put on the pump. If gas hinders the production of a well it simply means that the pump is not built to handle gas and fluid together. The action of the ordinary pump described at the beginning of this paper shows how the up stroke of the pump is a suction stroke and how the down stroke is a compression stroke. There is no necessity to consider particularly the distance between the standing and traveling valve as long as a fluid such as water which is

almost incompressible and which contains no free gas has to be pumped, but the situation is changed entirely when the same pump must lift oil which is an altogether different liquid.

It is necessary to arrange these valves so that they will come as close together as possible at the end of the down stroke otherwise the gas assembled between the two valves will remain between them and due to its high elasticity and compressibility simply expand and compress with every stroke not allowing the valves to function correctly. Any air compressor illustrates how much care is given to this point and no cushion space at all it left between the piston, the intake and the discharge valve.

The oil pump largely in use has a long one-piece plunger made of tubing with a ball and seat at the top. The open space left inside of barrel and plunger when the plunger is on its lowest point allows the gas to assemble, and, assuming that the oil in the tubing exerts a pressure of 2,000 pounds against the top of the plunger, a mixture of oil and gas below the plunger must be compressed at the least to over 2,000 pounds to permit a flow of fluid through the traveling valve into the tubing. Assuming that gas and oil flow, during the suction stroke of the pump, into the barrel, with a pressure of 100 pounds per square inch, the mixture inside of the barrel must be compressed from 100 to 2,000 pounds and the free gas must reduce its volume in proportion.

This necessary reduction of volume can only take place when the volume between the two valves at the end of the up stroke is far greater than the volume at the end of the down stroke, otherwise no oil and gas will flow through the traveling valve, and the pump will not work.

It is a common practice to discard the garbutt rod of the ordinary pump, placing an additional ball and seat traveling valve at the bottom of the plunger. This, together with the caution to run the plunger as close to the standing valve as possible, will overcome the undesired reduction in pumping efficiency.

A Gas Anchor

A gas anchor attached to the bottom of the barrel is a valuable supplement for any pumping well with an appreciable amount of gas. The agitating action of the moving plunger always produces a certain amount of free gas and a proper gas anchor will act as a trap and separator keeping a large amount of free gas outside of the pump. A gas anchor with but one inlet hole, the size of the hole depending on the size of the pump and the gravity of the oil, has been developed and is successfully in operation.

Conclusion

The pumping of deep wells in California has given the operator troubles of so many different natures:

Due to great depth.
High gravity of oil,
Great gas pressure.
Water.
Fine floury sand.
Coarse sand.
Mud.
Floating sand.
Sulphur and other impurities.

And to the excessive small sizes of casing in extreme pumping depth, that every possible pumping device has been tried.

Extensive experiments with cups in deep wells without sand have proven to be successful when cups are run between two steel plungers which protect them from above and from below against excessive pressures, however, impurities such as sulphur have destroyed these cups in a very short time.

The experience obtained in the deep wells of the Los Angeles Basin with improvments on pumping equipment as described, give hope, that a step in the right direction has been taken, and that the pumping of deep wells around the 5000-foot mark will soon become a matter of routine.

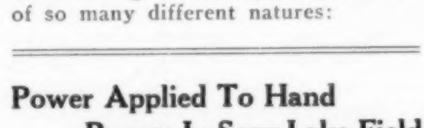
Most of the California deep wells are pumping now, and many of the practical men in the field and theoretical men in the office recognize how many possibilities of improvement the intricate problem of deep well pumping still holds. The writer of this paper hopes that he has brought into discussion a number of viewpoints which may throw light on the subject, and which may be developed for the general benefit of the industry.

Power Applied To Hand Pumps In Sour Lake Field

Common practice in the Sour Lake field is to use hand pumps for picking up oil from sumps and open settling tanks.

Unlike ordinary use of these pumps, the lease workers there so place their pumps that they can be driven by the stroke of the shackle rods. To accomplish this, a pump is made stationary under a shackle rod.

Then a clamp is attached to the rod, immediately over the pump handle. By dropping a stick through the clamp and into the hollow handle, the pump piston is put in motion.



Hand pump set up for operating from the shackle rod above.

Pittsburgh, Pa., Dec. 13.—The Hope Natural Gas Company has agreed to purchase from the Pure Oil Company natural gas produced on the latter's properties in Kanawha County in West Virginia. The contract covers a period of years.

Oklahoma City, Okla., Dec. 13.—Notice of increase in capital stock has been filed with the secretary of state here by the Oklahoma Company of Delaware, increasing from $1,750,000 to $2,143,450.32.

Eastern Pipe Line Statistics

..Pittsburgh, Pa., Dec. 6.—Crude oil traffic through pipe line systems east of the Mississippi river for October of this year and comparative figures for other months and years follows:

Eastern Pipe Line Statistics

	Runs from Wells			Other Receipts			Reg. and Other Deliveries		
	1924		1923	1924		1923	1924		1923
	Oct.	Sept.	Oct.	Oct.	Sept.	Oct.	Oct.	Sept.	Oct.
National Trans. Co.	199,575	182,088	211,487	591,739	469,614	649,133	688,402	552,384	844,497
Total 10 months	1,861,185	.....	2,085,070	7,717,691	.....	8,921,460	9,760,271	.....	10,886,926
S. W. Penn Pipe Lines	90,884	78,895	93,952	501,908	648,653	626,630	603,702	701,717	748,953
Total 10 months	829,208	.....	890,101	6,664,145	.....	7,516,595	7,475,237	.....	8,580,617
Eureka Pipe	396,959	351,485	430,377	285,576	337,334	463,850	485,210	694,456	811,528
Total 10 months	3,661,157	.....	3,985,299	4,390,550	.....	5,997,899	8,061,809	.....	9,978,589
Buckeye Pipe	449,201	418,113	441,181	1,457,278	1,323,308	903,039	1,522,987	1,745,786	1,205,321
Total 10 months	3,970,850	.....	4,309,875	16,477,456	.....	19,877,939	20,126,031	.....	24,008,695
Indiana Pipe	13,732	13,098	14,812	1,506,340	1,384,705	1,268,213	1,547,930	1,348,622	1,284,790
Total 10 months	124,140	.....	156,862	17,463,918	.....	21,343,051	17,602,030	.....	21,412,752
Cumberland Pipe	353,376	343,759	399,736	120	318	136	337,938	350,755	465,155
Total 10 months	3,565,919	.....	3,643,302	1,422	.....	4,250	3,656,662	.....	3,657,077
N. Y. Transit	19,341	17,950	17,402	555,907	257,911	211,156	521,646	537,759	487,333
Total 10 months	177,880	.....	159,563	4,896,426	.....	6,868,593	5,468,583	.....	7,515,800
South. Pipe Line	.....	.....	.....	.....	69,189	243,064	175,023	42,970	168,500
Total 10 months	.....	.....	.....	2,802,402	.....	4,635,906	3,246,220	.....	4,602,657
Crescent Pipe Line	.....	.....	.....	.....	.....	87,033	.....	.....	96,990
Total 10 months	.....	.....	.....	.....	.....	1,235,442	.....	.....	1,257,010
North Pipe Line	.....	.....	.....	675,593	558,439	48,357	723,903	381,849	308,249
Total 10 months	.....	.....	.....	6,928,660	.....	9,300,051	6,731,908	.....	9,612,205
Illinois Pipe Line	711,273	685,972	544,862	120,130	150,271	119,965	778,847	885,062	703,441
Total 10 months	6,278,201	.....	5,454,709	1,402,383	.....	2,341,866	7,305,269	.....	7,529,212

FIELD NOTES AND PRODUCTION STATISTICS

Dominguez Is Ideal Field of California

Development along most conservative lines with wells properly spaced—Six thousand barrel producer

By W. E. Green
Staff Representative

Los Angeles, Calif., Dec. 13.—California oil fields have made history along several lines the past two or three years, but it appears that it has been left to Dominguez to be the field to be developed along the most conservative lines and is the ideal field of the state from that standpoint.

It was predicted some months ago that the Dominguez field would be producing at least 50,000 barrels of oil a day by January 1. This prediction is found to be too low. During the past week the Associated Oil Company completed the best well in the history of the field from the point of production, bringing the production of the field for the week up to 55,000 barrels daily average. The field produced close to 58,000 barrels Friday.

Agree On Spacing

The field is being developed by the Shell Company, the Union Oil Company, the Associated Oil Company, the Marland Oil Company of California, and the United Oil Company. The General Petroleum has some acreage in the field, but is off on the edge. Two or three small concerns have small tracts, but not in the best part of the field. The companies with the largest acreage in the best part of the field agreed to drill their wells 300 feet apart and also agreed not to drill into the pay strata more than 400 feet. This agreement is being held to most rigidly.

At this writing there are 36 wells in the field on production, producing at a well average of 1611 barrels daily against a well average of 1273 barrels the previous week. Late this week, a total of 26 wells were drilling in the field below 3500 feet and it is indicated that most of these drilling wells will be completed in the next sixty days. The field is almost 15 months old and during the life of the field about 4,500,000 barrels of oil has been produced with a value of a little over $5,500,000. Several wells, on the edge, have been drilling to a total loss.

Making 6000 Barrels

The Associated's DeFrancis 3 came in last Wednesday afternoon from a total depth of 4277 feet, producing from 400 feet of pay formation. The well started out producing around 5000 barrels a day and for the first two hours there was a vacuum between the casing and tubing, while Friday the pressure was only 50 pounds on casing and 250 pounds on tubing. In the meantime the well has increased to slightly better than 6000 barrels a day of 30.9 gravity oil, clean, through 1 31/64 inch bean or choke. This is the second well to be completed by the Associated on its 50-acre lease in the southeast part of the field. The first Associated well to be completed is now making 2175 barrels of clean oil with 190 pounds tubing pressure and 530 pounds casing pressure through 1 1/32-inch bean. The Associated has two other wells due for completion on the same tract in the next week.

Edge Well Looks Bad

The Shell Company has the acreage directly to the east of the Associated tract under lease and development. The Shell's Manuel 1, about half a mile due east of the Associated's last producer, had reached a total depth of 4479 feet with a string of casing cemented at 4079 feet. The water shut off was pronounced o. k., but on a production test it flowed salt water. It is not known just where the water is coming from, but it is thought it might be coming from just below the cementing point and that another string will have to be set to shut off the water. The action of the Shell's well indicates that it is on the east edge and that the Associated holds the best acreage on that side of the field. On the north edge of the field near the northwest corner, the Shell Company is drilling Hellman 1 at 5795 feet, having found the first oil sand at 4300 feet. From that depth to bottom of hole, thin oil sands and shales have been cored.

Due to the depth of pay found in Hellman 1, many believe that there is at least 1500 feet of pay in the best part of the field. Since the wells now on production have been drilled only 400 feet into the pay, it is believed that when the wells begin to decline in production they can be drilled around 1000 feet deeper and restored to greater production. Taking all of these details into consideration, the indications are that the Dominguez field will produce more than 50,000 barrels daily throughout 1925, and probably more.

Nothing New at Rosecrans

The developments the past week on the Rosecrans field were without special incident. None of the wells which have found the oil sand in the northwest section of the field have been placed on production yet, and until they are drilled to completion, the field will continue to be an unknown quantity. If the northwest area comes up to expectations, the field will have to be reckoned with during 1925, producing considerable high gravity oil. It is possible for these fields of Rosecrans and Dominguez during the next three months to keep the state's production up close to 590,000 barrels daily.

Expect Much of Torrance

It is being predicted in some quarters that the Torrance field will be producing as much oil three or four months from now that it is producing at this time, with a bare chance that there will be an increase. It is predicted that the pumping wells will do better after being pumped several months and that the sand trouble will be overcome to a large extent. At this time there is a total of 373 wells in the field on the pump with 100 wells still flowing. This gives the field a total of 473 producing wells, making a well average of 95 barrels daily. In the field, a total of 165 wells have been placed on production, which are now idle. It is thought these wells will be placed on production the coming two or three months.

CALIFORNIA FIELD OPERATIONS

The following table from statistics compiled by State Oil and Gas Supervisor R. D. Bush for California for the past several weeks gives a true insight into field activities:

Month of—	New Wells started	Water Shut-off tests	Deepening jobs	No. Wells aband.
June, 1923	120	195	59	22
July	94	145	46	23
*August	96	141	41	26
September	122	194	39	36
October	114	131	38	25
November	100	151	48	23
*December	105	181	37	32
January, 1924	120	111	48	23
February	125	97	49	47
*March	142	183	81	99
April	130	154	76	34
*May	156	171	79	34
June	118	149	66	18
July	112	129	69	28
August	105	142	86	34
September	87	118	79	35
October	78	101	72	15
Week ending—				
November 1	23	29	17	5
November 8	17	23	22	10
November 15	16	20	13	5
November 22	22	14	29	49
November 29	21	21	16	16
December 6	19	36	32	18

*Denotes months with five weeks.

Average Daily Production for all U. S. Fields

Oklahoma

Fields—	Past Week	Prev. Week
Tonkawa	105,530	106,740
Burbank	70 835	71,080
Bristow	50,760	50,985
Cromwell	46,380	47,105
Osage (outside Burbank)	36,640	36,790
Gilcrease-Papoose	31,155	30,070
Okmulgee	25,185	25,290
Cushing	23,390	23,485
Hewitt	18 190	18,365
Wewoka	12,345	12,990
Healdton	12,120	12,390
Otoe	10,605	.....
Duncan and Walters	8 560	8,600
Stroud	3,460	3,515
Other fields	68,900	*78,590
Totals	524,055	526,270

*Otoe production has heretofore been carried under "Other Fields", therefore the decrease.

Louisiana

Haynesville	15,955	16,245
Caddo Light	9,785	9,760
Homer	7 110	6,930
Cotton Valley	7,100	9,810
Vinton	5,750	6,040
Bull Bayou	4,625	4,700
Bellevue	4 115	3,395
Caddo Heavy	2,245	2,300
Lockport (Lake Charles)	895	1,180
Evangeline	835	870
Elm Grove	665	650
Edgerly	520	520
Anse La Butte	20	20
Totals	59,620	62,420

Kansas

Fields—	Past Week	Prev. Week
Greenwood	22,390	22,200
Eldorado	16,995	16,980
Elbing and Peabody	7,970	7,985
Rainbow Bend	7,790	7,640
Fox-Bush	4,860	4,870
Augusta and Douglas	3,000	3,000
Blankenship	2 745	2,765
Florence and Covert	2,375	2,380
Other fields	20,295	20,100
Totals	88,415	87,920

Arkansas

Smackover Heavy	66,565	73,330
Smackover Light	29,590	30,975
El Dorado	10,685	10,815
Stephens	2,155	1 990
Irma	1,295	1,365
Totals	110,290	118,475

California

Los Angeles, Calif. Dec. 13.—The daily average production of California fields the past week, compared with the previous week, with number of producing wells in several Los Angeles Basin fields, was about as follows:

	Past Week	No. Prod. Wells	Prev. Week
Long Beach	130,500	498	131,000
Santa Fe Springs	52,000	348	53,500
Huntington Bch.	43,500	296	43,000
Torance	45,000	473	46,000
Dominguez	55,000	36	42,000
Rosecrans	9,300	15	7,500
Others	273,700		282,000
Totals	609,000		605,000

Wyoming-Montana-Colorado

Pipe line runs for the current and past week from all fields in the Rocky Mountain Region are shown for comparative purposes:

Fields—	Past Week	Prev. Week
Salt Creek	57,900	58,000
Lost Soldier	5,425	5,050
Kevin Sunburst	3,495	3,035
Grass Creek	3,315	3,230
Cat Creek	3,210	3,150
Big Muddy	3,140	3,715
Rock River	3,100	3,020
Teapot	2,180	1,680
Craig	1 100	1,135
Lance Creek	975	1,025
Elk Basin	890	850
Hamilton Dome	775	600
Fort Collins	725	....
Miscellaneous	600	775
Poison Spider	380	440
Osage	340	365
Lander	350	375
Florence	245	....
Greybull	85	105
Pilot Butte	80	85
Ferris	50	65
Notches	40	185
Totals	88,400	86,885

Texas

NORTH-CENTRAL

Fields—	Past Week	Prev. Week
Corsicana-Powell	65,156	65,070
Archer County	41,140	39,770
Mexia	22,900	23,500
Electra	18,455	19,400
Wortham	17,100	4,500
Richland	15,910	17,900
Burkburnett	16,045	16 895
Stephens County	15,850	16,385
Reagan County	10,700	8,630
Ranger-Eastland	6,695	5,870
Vernon-Wilbarger County	4,960	5,500
Desdemona-Gorman	4,150	5,340
Young County	3,870	3,755
Moran-Shackelford County	2,530	2,730
Currie	2,500	2 600
K-M-A	2,730	2,585
Mitchell County	1,560	1,550
Callahan County	1,590	1,460
Panhandle District	1,275	1,180
Iowa Park-Shappell	1,145	1,040
Brown County	925	720
Strawn-Palo Pinto County	710	685
Petrolia-Clay County	350	345
Coleman County	70	70
Thrall-Williamson County	60	70
Scurry County	50	50
Throckmorton County	35	40
Jack County	25	25
Totals	258,486	247,665

GULF COAST

Hull	15,740	16,300
West Columbia	12,670	12,250
Orange	11,300	11,220
Humble	4,870	4,910
Damon Mound	1,225	1,240
Spindletop	1,300	1,250
Saratoga	1,500	1 480
Batson	1,580	1,640
Goose Creek	9,603	9,570
Sour Lake	3,990	4,050
Big Creek	600	1,250
Pierce Junction	402	500
Blue Ridge	730	700
Barbers Hill	140	130
Nocogdoches	110	110
Markham	90	65
Dayton	60	45
High Island	65	90
Hockley	10	10
Totals	65 985	66,810
Luling	34,860	35,060
Mirando	11,700	10,300
Somerset	4,270	4,490
*Misc. South Texas	1,110	1,120
Totals	51,940	50,820
Totals Texas	376,411	365,295

*Includes Callahan, Rockdale and Minerva.

Condensed U. S. Production for Twelve Months

(Stated in Barrels)

This table is carried each week by The OIL WEEKLY, and shows daily production average for each state or section. Figures for Oklahoma, Kansas, Texas, Louisiana, Arkansas and Mountain States are compiled by The OIL WEEKLY, while estimates for California and Eastern States are furnished by the American Petroleum Institute.

Daily average for month	*Mid-Continent	North Central Texas	Texas Coastal	Texas Total	Kansas	Okla.	Louisiana	Eastern States	Wyo. Mont. and Colo.	Calif.	Ark.	U. S. Total
May	793,774	203,776	90,905	304,032	85,500	504,498	75,368	109,125	125,680	700,125	109,033	2,010,840
June	824,297	217,162	92,240	320,250	85,255	521,880	72,745	110,300	129,559	773,000	133,592	2,159,818
July	866,665	274,330	91,795	378,335	84,785	508,405	70,085	113,000	137,300	851,000	132,395	2,275,305
August	826,982	278,574	94,398	393,780	82,741	464,416	68,739	112,625	137,909	866,250	123,000	2,251,966
September	830,517	371,730	93,649	443,461	77,078	421,763	68,935	108,400	157,742	858,700	127,955	2,269,176
October	876,059	408,036	84,120	511,483	71,362	371,657	65,305	107,750	139,912	823,125	125,145	2,240,741
November	935,975	479,383	82,747	580,700	69,337	287,253	64,701	108,125	151,225	768,275	124,188	2,253,806
December	729,591	283,130	78,033	378,478	68,444	378,017	61,138	110,300	146,770	723,845	120,045	1,987,041
January (1924)	685,540	243,120	75,085	334,485	67,815	374,605	59,125	108,000	144,735	698,965	114,255	1,900,985
February	729,933	254,180	81,131	362,849	68,183	407,568	59,449	104,500	141.775	675,425	114,726	1,934,476
March	762,684	284,874	78,567	388,221	69,864	407,946	55,783	97,800	128,352	650.790	119,869	1,917,023
April	777,590	276,595	76,755	380,005	71,015	429,980	54,740	101,250	127,700	649,825	128,750	1,943,270
May	763,320	267,475	74,175	374,915	71,490	424,355	60,655	103,800	127,770	640,930	148,630	1,952,545
June	799,230	260,785	74,335	375,310	74,265	464,175	62,660	105,750	125,735	628,400	157,165	1,993,465
July	815,830	254,665	75,445	378,365	81,545	479,620	63,855	107,175	124,305	620,175	148,655	2,003,695
August	861,640	254,520	75,700	377,045	85,765	521,355	62,595	107,000	123,895	619,200	142,740	2,037,890
September	886,650	253,243	76,953	366,197	86,758	546,647	62,162	107,622	117,345	611,500	131,343	2,029,580
October	855,823	247,222	75,713	359.861	86,884	521,717	62,493	106,600	107,270	605,060	123,235	1,972,902
November	851,733	248,467	71,648	369,621	86,031	517,237	66,117	106,375	91,205	594,000	119,893	1,950,478
December 5	861,855	247,665	66,810	365,295	87,920	526,270	62,490	106,500	86,885	605,000	118,475	1,958,835
December 12	870,956	258,486	65,985	376,411	88,415	524,055	59,620	106,500	88,400	609,000	110,290	1,962,691

*Includes North Central Texas, Kansas, Oklahoma.
NOTE—Mexia production included in North Central Texas

Imports of Petroleum at Principal United States Ports

The following represents the total imports of crude oil for the month with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports						
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
October	365,000	292,000	1,194,000	536,000	816,000	3,203,000	988,000	1,330,000	380,000	50,000	2,248,000	5,951,000
November	223,000	395,000	1,194,000	576,000	757,000	3,145,000	1,478,000	1,000,000	551,000	111,000	3,287,000	5,432,000
December	474,000	574,000	1,243,000	606,000	1,024,000	3,917,000	2,019,000	1,832,000	933,000	259,000	5,043,000	8,960,000
January, 1924	398,000	531,000	1,060,000	376,000	949,000	3,314,000	1,295,000	887,000	689,000	15,000	2,936,000	6,250,000
February	520,000	527,000	639,000	458,000	771,000	2,865,000	1,558,000	1,284,000	525,000	195,000	3,562,000	6,427,000
March	802,000	734,000	1,243,000	502,000	1,668,000	5,049,000	2,346,000	1,689,000	1,116,000	301,000	5,257,000	10,281,000
April	653,000	664,000	1,371,000	407,000	1,067,000	4,162,000	1,641,000	1,492,000	510,000	68,000	3,711,000	7,873,000
May	693,000	618,000	1,368,000	264,000	1,329,000	4,272,000	1,398,000	1,308,000	884,000	169,000	3,759,000	8,031,000
June	515,000	466,000	1,864,000	292,000	1,026,000	4,163,000	1,769,000	1,079,000	685,000	145,000	3,678,000	7,841,000
July	375,000	260,000	1,971,000	179,000	1,114,000	3,899,000	1,418,000	1,211,000	579,000	153,000	3,361,000	7,260,000
August	463,000	400,000	1,958,000	468,000	788,000	3,945,000	1,857,000	1,210,000	547,000	80,000	3,694,000	7,639,000
September	437,000	193,000	828,000	330,000	878,000	2,666,000	1,090,000	1,350,000	605,000	87,000	3,132,000	5,798,000
October	606,000	299,000	1,140,000	402,000	546,000	2,993,000	1,027,000	1,190,000	492,000	130,000	2,839,000	5,832,000
November	851,000	375,000	2,047,000	709,000	1,108,000	5,090,000	1,695,000	1,631,000	404,000	85,000	3,815,000	8,905,000
December 6	194,000	134,000	361,000	50,000	90,000	829,000	303,000	367,000	42,000	50,000	762,000	1,591,000

NOTE—Figures by American Petroleum Institute.

Receipts of California Oil at Atlantic Coast Ports

The following shows the receipts of California oil at Atlantic Coast ports by months with the current month given by weeks:

	Atlantic Ports						Gulf Coast Ports					
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	N. Orleans Baton Rge.	Port Arthur Sabine Pass	Tampa	Total	Total at All Ports
October	779,000	224,000	2,503,000	779,000	429,000	4,714,000	.....	746,000	.....	.....	746,000	5,460,000
November	591,000	155,000	2,302,000	584,000	271,000	3,903,000	.....	935,000	.....	.....	935,000	4,838,000
December	454,000	215,000	2,901,000	813,000	753,000	5,136,000	.....	729,000	.....	.....	729,000	5,213,000
January	619,000	77,000	3,156,000	659,000	503,000	4,660,000	.....	615,000	.....	.....	615,000	5,275,000
February	326,000	145,000	2,811,000	842,000	75,000	4,199,000	.....	810,000	.....	.....	810,000	5,009,000
March	298,000	77,000	3,352,000	989,000	413,000	5,129,000	.....	.....	.....	.....	.....	5,129,000
April	170,000	77,000	2,633,000	378,000	224,000	3,482,000	.....	.....	.....	.....	.....	3,482,000
May	190,000	147,000	2,771,000	411,000	273,000	3,792,000	.....	315,000	.....	.....	315,000	4,107,000
June	522,000	147,000	2,490,000	443,000	220,000	3,822,000	.....	.....	.....	.....	.....	3,822,000
July	167,000	70,000	2,017,000	374,000	188,000	2,816,000	.....	75,000	.....	.....	75,000	2,891,000
August	400,000	.....	2,914,000	288,000	520,000	4,354,000	.....	30,000	.....	.....	30,000	4,384,000
September	290,000	148,000	2,737,000	327,000	81,000	3,583,000	.....	.....	.....	.....	.....	3,583,000
October	378,000	217,000	2,338,000	379,000	160,000	3,472,000	.....	.....	.....	.....	.....	3,472,000
November	512,000	223,000	1,676,000	163,000	160,000	2,734,000	.....	.....	.....	.....	.....	2,734,000
December 6	70,000	.....	511,000	.....	.....	581,000	.....	.....	.....	.....	.....	581,000

NOTE—Figures by American Petroleum Institute.

performance!

—rather than theory

WHEN ALL IS SAID AND DONE, the acid test of worth is performance—rather than theory.

It is the performance of D & B Pumps that cause them to keep the leadership of their field so many consecutive years. Their ability to obtain maximum results of production in nearly every field that produces oil, with minimum expense is true performance—rather than theory.

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CRUDE OIL PRICE QUOTATIONS FOR ALL FIELDS

Current Postings

EASTERN STATES

	Dec. 19 1924	Dec. 19 1923
New York Transit	$2.85	$2.85
Bradford (Pa.)	2.85	2.85
Other Pa. Grades	2.75	2.60
Cabel	1.45	1.20
Ragland	.90	.75
Corning	1.50	1.45
Somerset, medium	1.55	1.15
Somerset, light	1.70	1.30

CENTRAL STATES

Illinois	$1.37	$1.22
Indiana	1.38	1.23
North Lima	1.58	1.43
South Lima	1.58	1.43
Plymouth	.75	.60
Princeton	1.37	1.22
Waterloo	.75	.70
Wooster	1.40	1.25

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	1.30	...
33 to 35.9	1.20	...
32.9 and below	1.10	...

CALIFORNIA

(Crude oil prices at well)

Los Angeles and Orange Counties

14 to 19.9 gravity	$1.00	$ .60
20 to 20.9 gravity	1.01	.61
21 to 21.9 gravity	1.02	.62
22 to 22.9 gravity	1.03	.63
23 to 23.9 gravity	1.05	.64
24 to 24.9 gravity	1.07	.65
25 to 25.9 gravity	1.10	.66
26 to 26.9 gravity	1.13	.67
27 to 27.9 gravity	1.16	.68
28 to 28.9 gravity	1.19	.69
29 to 29.9 gravity	1.22	.70
30 to 30.9 gravity	1.25	.71
31 to 31.9 gravity	1.28	.72
32 to 32.9 gravity	1.31	.73
33 to 33.9 gravity	1.34	.74
34 to 34.9 gravity	1.37	.75
35 gravity and above	1.40	.76
Fuel Oil	1.40	...

Rosecrans Field

36 to 36.9 gravity	$1.46	
37 to 37.9 gravity	1.52	
38 to 38.9 gravity	1.58	
39 to 39.9 gravity	1.64	
40 to 40.9 gravity	1.70	
41 to 41.9 gravity	1.76	
42 and above	1.82	

MID-CONTINENT

(Prairie Prices)

Below 30 gravity	$ .75	$ ...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...

	Dec. 19 1924	Dec. 19 1923
(Sinclair Prices)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...
(Texas Company Prices)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 to 35.9 gravity	1.10	...
36 and above	1.25	...
(Magnolia Petroleum Co.)		
Below 30 gravity	.75	...
30 to 32.9 gravity	.90	...
33 and above	1.25	...
Corsicana, light	1.25	...
Corsicana, heavy (at wells)	.90	...
Mexia	1.25	...
Thrall	1.00	...

NORTH CENTRAL TEXAS

(Humble Oil & Refining Co.)

Corsicana, light (Powell)	1.25	1.00
Mexia	1.25	1.00
Currie	1.25	1.00

RANGER

(Humble Oil & Ref. Co.)

30 and below	.90
30 to 32.9	1.10
33 to 35.9	1.25
36 and above	1.35

WICHITA AND ARCHER COUNTIES

(Texas)

(Humble Oil & Ref. Co.)

30 and below	.75
30 to 32.9	.90
33 to 35.9	1.10
36 and above	1.25

Moran Crude

30 and below	.75
30 to 32.9	.90
33 to 35.9	1.10
36 and above	1.25

SOUTH TEXAS

Mirando (Texmta)	.80	.75
Mirando (Magnolia)	.75	...

SOMERSET

(Grayburg Pipe Line Company)

26 gravity and above	.95	...
Below 26	.85	...

GULF COAST

Grade "A"	1.50	...
Grade "B" at Blue Ridge, Hull and Pierce Junction	1.25	...

LULING

All gravities	.90	...

LOUISIANA-ARKANSAS

Caddo

	Dec. 19 1924	Dec. 19 1923
38 gravity and above	1.35	...
35 to 37.9 gravity	1.25	...
32 to 34.9 gravity	1.15	...
Below 32 gravity	1.00	...
Homer		
35 gravity and above	1.10	...
33 to 34.9 gravity	1.00	...
31 to 32.9 gravity	.90	...
Below 31 gravity	.75	...

COTTON VALLEY

All grades	.95	...
Haynesville		
33 gravity and above	1.00	...
Below 33 gravity	.90	...
Bull Bayou		
38 gravity and above	1.15	1.05
35 gravity to 37.9	1.00	.90
32 to 34.9 gravity	.85	.75
De Soto crude	1.20	1.10
Crichton	1.00	.90
Bellevue	1.35	.75
Jennings	1.50	1.00
Vinton	1.50	1.00
Edgerly crude	1.50	1.00

Smackover

Standard Oil Company of Louisiana

Louisiana Oil Refining Corporation

Gulf Refining Company

Shreveport-El Dorado Pipe Line Company

25 gravity and above	$ .95	...
Below 25 gravity	.85	...
Texas Company		
25 gravity and above	$ .95	...
Below 25 gravity	.85	...
El Dorado		
33 gravity and above	1.00	...
Below 33 gravity	.90	...
East Field (Calion)	.85	...
Stephens District		
26 gravity and above	.90	...
Below 26 gravity	.70	...

WYOMING-MONTANA

Wyoming

Elk Basin	1.20	.95
Grass Creek	1.20	.95
Rock Creek	.95	.60
Lance Creek	1.15	.70
Mule Creek	.60	.45
Big Muddy	.75	.45
Salt Creek	.85	.60
Osage	1.15	.90
Hamilton Dome	.80	.95
Pilot Butte	.75	1.10
Lander	.20	1.10
Torchlight-Greybull	1.15	.95
Montana		
Sunburst	.90	.70
Cat Creek	1.20	.95

CANADIAN CRUDE

Oil Springs	2.30	2.15
Petrolia	2.23	2.08

*Plus 2½ cents bounty.

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SINCLAIR OILS

Say you saw it in The Oil Weekly

Little Chance of Oklahoma Increase Now

Output of state shows further slump for past week as new districts fail to hold their own

By J. F. Carter, Jr.
Staff Representative

Tulsa, Okla., Dec. 16.—Indications gathered from various sections of the state continue to bear out the belief that the crude output in Oklahoma is not now in any immediate danger of being forced upward. Production last week showed a slight loss with Tonkawa, Burbank, Cromwell and Stroud registering a drop and only the Gilcrease-Papoose field showing a gain.

With the completion of several good inside wells this last week the Tonkawa deep sand area attained a new high production level last Friday when the 56 completed wells were credited with producing a total of 89,424 barrels of oil. This tops the previous high mark of 88,956 barrels attained last September. Due to this development it may be expected that the deep sand pay and the shallow depths in the field both will be capable of producing upwards of 110,000 barrels by the close of the week's accounting period on Thursday.

In the deep sand pay area the Comar Oil Company continues to lead with 18 completed wells with a combined daily production of 26,538 barrels while this company in the shallow pay has a total of 342 wells completed with an aggregate production of 9,200 barrels daily. The Gypsy by completing two new wells Friday comes next with a total of nine with a combined output of 14,901 barrels. Pennok Oil and T. B. Slick are tied for third place with seven wells each with combined daily outputs of 5676 barrels and 8318 barrels, respectively. Amerada Petroleum Corporation is next with six producers, counting the latest one brought in Friday, with an aggregate daily output of 12,903 barrels.

In the Burbank area interest is overshadowed for the moment by the approaching Osage sale which will be held Thursday at the Osage Indian Agency at Pawhuska with Colonel Walters of Skedee fame in the chair. No spirited bidding is expected except perhaps on three or more tracts on the west side, being tract Nos. 180, 181 and 182, all in township 27 and range 5. Nothing like the totals that have been bid in at previous sales is expected at the auction this week as but few of the larger companies are professing any great interest in the event. However, last minute predictions have gone astray in the past and Thursday's bidding may be another precedent smasher. But it is to be honestly doubted.

With several more wells completed the last week Burbank showed a decrease in production, the decrease being fairly well distributed among the larger operators in the field. The Carter Oil Company at a recent check of production figures for the field had a daily average output of 12,534 barrels while the Phillips Petroleum Company had a total daily average production of 17,675 barrels.

A completion of note in Osage County in the extreme northern part of the Atlantic pool area in the Texas Company's No. 11 in the northeast quarter of 29-25n-8e that topped the second break at 2661 feet yesterday and is flowing at the rate of 90 barrels an hour from a total depth of 2665 feet. This well is north by west from the Burbank pool.

In Cromwell activity is subsiding even more than heretofore. The second disastrous fire to hit the town was extinguished Sunday night or morning after considerable damage had been done and many frame structures in the main business district had been reduced to ashes. The work of putting on the pump producers in the south and central portions of the field is progressing with the gas pressure easing off almost daily. A test that is being watched with interest in this section is that of the Carter Oil Company in the Little farm in the southwest of the southeast of the northeast of section 10-10-8 which is drilling below 3495 feet with some 300 feet of oil in the hole. A gas showing was found in this well in an upper sand at 3433 to 3438 feet. This is considered an extension approximating a quarter of a mile to the northeast and may develop something of real interest. In the north extension of the Cromwell pool a number of new wells have lately been started and activity in that area will be watched with interest. Cromwell production continues to show a steady decline.

In the Davenport area in Lincoln County the Magnolia Petroleum Company has drilled deeper the field's discovery well which is the Smith No. 1, in the southwest corner of section 34-15n-5e, and late reports were that the well made 330 barrels in the 24 hours ending at 7 a. m. yesterday morning. This well first was drilled to a total depth of 3465 feet and production increased to 42 barrels an hour. The present depth of the well is 3467 feet.

Another Dutcher sand pool appears in sight as the result of Frank Billingslea and others strike in their Jones 1 in the center of the east line of the northeast of the northeast in section 28-14-9n in Creek County which has increased its flow from the pay topped at 3118 feet. The oil is 34 gravity and the well is several miles from production, thereby opening what may be a new area of importance. The well swabbed 145 barrels and later this was increased.

Pipe line companies in the field are becoming more active as to soliciting connections with both Prairie and Sinclair especially keen in their lookout for more oil.

INDIVIDUAL COMPANY OUPUT IN THE TONKAWA, OKLAHOMA POOL FOR THE SEVEN DAY PERIOD ENDED DECEMBER 10

Company—	Shallow Sand No. Wells	Shallow Sand Output	Deep Sand No. Wells	Deep Sand Output
Amerada Petroleum Corporation	38	977	5	10,095
Blackwell Oil & Gas Company	33	861	4	6,701
Carter Oil Company	5	122	..	.....
Champlin Refining Company	2	20	..	.....
Comar Oil Company	342	9,200	18	26,538
Gypsy Oil Company	100	2 679	7	11,641
Healdton Oil & Gas Company	28	1,395	..	.....
Marland-Cosden	18	281	..	.....
McMan Oil Company	1	2	..	.....
Pennok Oil Corporation	32	1,154	7	5,676
Phillips Petroleum Company	2	61	..	.....
Prairie Oil & Gas Company	12	501	..	.....
Sinclair Oil & Gas Company	1	15	..	.....
T. B. Slick	36	1,643	7	8,318
Southwestern Petroleum Company	15	608	..	.....
Texas Company	5	39	..	.....
Twin States Oil Company	1	9	..	.....
Wentz Oil Corporation	47	1,208	5	15,834
White Eagle Oil & Ref. Company	1	149	...	.....
Totals	667	21,829	53	84 703

Davis of United North and South Buys Mutual Pipe Line

Luling, Tex., Dec. 17.—Edgar P. Davis, president of the United North & South Oil Company, purchased entire control of the Mutual Pipe Line Company, operating here. The deal included a pipe line with a capacity of 25,000 barrels, loading racks and storage tanks owned by the company. The property is valued at more than $250,000.

T. M. Sowell, formerly an executive of the Mutual, is having the portable refinery of the company moved to Wortham. This was the only part of the company's holdings not included in the deal.

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ELEVATORS
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DUNN SAFETY Combination ROD and TUBING Hook

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Briefly Here's the Answer

1. A combination rod and tubing hook—*one hook for all work.*
2. It is strong enough to carry the largest, longest string of tubing, and then some.
3. It is light enough to handle the lightest string of rods easily and quickly.
4. It *handles* in a new and entirely different way.
5. The hook is hinged to the shank, and when in working position the two automatically lock together.
6. Automatically locks when in working position, *and cannot be released except by operator.*
7. Sudden jars, jerks, dropping, or rough usage, cannot open it.
8. The Safety Latch is completely protected from every outside influence.
9. Hook can be easily handled in either direction for receiving or releasing elevator bails.
10. Weight, 45 pounds. *Safe carrying capacity, 45 TONS.*

Investigate this one before you order more hooks. Naturally we remain a few jumps ahead of the field. Make us prove it.

(It hadta be dunn)

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Oxnard, California

OIL WELL PATENTED DUNN TOOLS
TRADE MARK REG.

Wortham Field Proven for Three Miles

Penn Well gives indication of second producing horizon of Woodbine sand at north end of pool

By H. H. King
Staff Representative

Wortham, Texas, Dec. 16.—The completion of three wells for a combined initial production of 23,000 barrels of high gravity crude added about 6500 feet of productive territory to the new Wortham field during the past week. This definitely established production across the southeast part of the townsite of Wortham, where drilling will be the most intensive. The initial performance of these three additions to the production column offers evidence that flush production of wells at Wortham will equal that furnished in the most prolific sections of the Corsicana-Powell and Mexia fields, and a stretch of 15,000 feet has been proven for production to date on the Wortham structure, while the width of the field is yet to be determined. About 25 tests are scheduled to reach the top of the Woodbine sand and start drilling in before the close of the present week, while this number will be swelled each succeeding week until the structure is drilled up.

Included in the trio of completions registered during the past week, was R. R. Penn-Boyd-Atlantic et al's L. H. McCorkle 1, located near the east edge of Wortham, and is credited with an initial flow of 8500 barrels of pipe line oil. This well failed to respond last week when bailed dry in the regular Woodbine sand drilled from 2944 to 2996 feet, and cast a shadow of doubt regarding the field's potentialities, while drilling operations on nearby tests were temporarily suspended and materials moved away to more encouraging locations in some instances. The well was deepened Friday from 2996 to 3003 feet through an unusually hard sand that necessitated the change of bits, and from 3003 to 3015 feet logged soft sand richly saturated with oil. This lower sand was bailed Saturday about noon, and responded with an initial flow of 8500 barrels, although the flow was choked down immediately.

Second Sand Possible

The failure of the Penn well to make a producer from the upper sand at 2944-96 feet has given rise for belief that a second Woodbine sand exists in the upper part of the Wortham field. The log of the well shows numerous shale breaks mixed in with layers of sand, while the Woodbine sand in other wells completed further south on the structure is practically solid. Predictions have been ventured by some geologists that the first Woodbine sand breaks off with increasing volume of shale in the townsite district and further northeast, while a second and productive oil sand underlies this first series of the Woodbine. A second and highly productive sand in spots has been proven on the lower end of the Currie field, located less than three miles northeast of present production at Wortham, while the Mexia field also furnished production from a second Woodbine sand in a limited area, however.

STEEL TANKAGE BEING BUILT FOR WORTHAM CRUDE

	No. 80,000 Bbls. Tanks	No. 55,000 Bbls. Tanks	Total Tankage in Bbls.
Atlantic O. P. Co..	5	2	510,000
Boyd Oil Company	.	50	2,750,000
Prairie O. & G. Co.	5	19	1,445,000
Pure Oil P. L. Co.	.	4	220,000
Simms Oil Co....	.	5	275,000
E. L. Smith O. Co.	.	4	220,000
Sun Oil Co.	.	4	220,000
Humble O. & R. Co.	.	20	1,100,000
Totals	10	88	6,740,000

The performance of the Penn well has stimulated development of townsite locations, and at least 50 new locations will be made as result of its showing. The production is being purchased by Atlantic, and transported to the Gulf Coast by the Fure Oil Pipe Line Company for delivery to Atlantic's refinery at Philadelphia. A number of leases and royalty interests were disposed of at greatly reduced prices when the Penn well bailed dry in the regular sand.

Kirby Petroleum Company's S. T. Bounds 1, located about 2000 feet northeast of the first big well completed in the field, was bailed in Thursday morning with an estimated flow of 350 barrels of pipe line oil per hour from sand at 2916-84 feet, and was holding to 6400 barrels on choke early this week. An offset to the Kirby well was brought in Monday afternoon with an estimated production of 6000 barrels of 39.7 gravity oil by the E. L. Smith Oil Company on the Beal lease. This well was also choked, and was allowed to produce 3450 barrels during the first 14 hours. The Sinclair Pipe Line Company is running all the oil from the Beal well, while Gulf Pipe Line Company is purchasing and running all the oil from the Kirby well.

FIELD WORK UNDERWAY AT WORTHAM

	Drilling	Rigs	Derricks	Locations
Atlantic O. P. Co.	2	1	..	3
Atlantic & Penn	1	..	..	..
Atlantic & Hinchcliff .	2	..	..	..
Barkley & Meadows		1	1	..
Mills Bennett		1	1	..
Boyd Oil Company 11		7	11	24
Carter & Lytle	3	1	..	..
Cranfill & Reynolds		2	..	..
Collins-Wheelock et al..	1	..	1	..
Farrish-Watts & Collins.	1	4	1	..
Godley Oil Company ...	2	1	1	..
Gulf Prod. Co.	5	6	3	3
Hapgood et al	1	..	..	..
J. K. Hughes Dev. Co. .	4	3	..	..
Mrs. J. K. Hughes et al.	3	1	..	..
Humble O. & R. Co. ...14		10	14	6
Kirby Pet. Co.	4	5	1	..
Love et al		1	..	..
Magnolia Pet. Co.	4	8	..	2
Massey et al		1	..	..
Moss et al	1	..	..	..
Murchison & Fain		1	..	..
Mutual Oil Co.	2	..	..	..
Owenwood Oil Corp. .. .		1	..	..
Oxford Oil Company . .	2	..	1	1
Patterson Lake Oil Co...	1	..	..	..
R. R. Penn-Atlantic & Boyd		2	..	4
Pure Oil Company	2	3	..	..
Ray et al		1	..	..
Republic Prod. Co.		1	..	1
Rio Bravo Oil Co.	3	1	1	10
Skelly Oil Co.		1	..	..
Simms Oil Co.	5	2	..	1
Simms-Marland et al ...	6	8	4	2
E. L. Smith Oil Co. ...	2	2	..	2
Southern Exploration Co.	2	1	..	..
Stroubie & Stroubie	1	..	..	..
Sun Oil Co.	2	3	2	1
Tri-Y Oil Co.		1	1	4
J. E. Walsh et al		..	1	..
Totals 87		81	44	64

Well Holding Up

Production from the Humphreys-Boyd Oil Company's Simmons 1, which was brought in on Thanksgiving Day, is above 8000 barrels of oil daily, with an 80-foot bailer lost in the hole. This well is also choked, and shows a pressure of 550 pounds at the choker. The same company's N. B. Boyd 1, which was the first test to show for production on the Wortham structure, and on the extreme lower end of the field, is flowing about 850 barrels of pipe line oil daily, but is agitated frequently to maintain the steady flow.

The Humphreys-Boyd Oil Company, owners of the first two wells completed in the field, has placed orders for immediate delivery of fifty 55,000 barrels steel tanks. A second tank farm site was purchased last week on the west side of the field to make room for this additional tankage. This company had steel enroute from the mills for ten 55,000 barrel tanks before its first well was completed, and several of these tanks will be ready to receive oil before the close of the present week. Grades are being erected for the entire 50 tanks in advance of the arrival of the steel. A field gathering system is being installed to handle in excess of 30,000 barrels of crude daily to the tank farm. Two concrete dams and a water reservoir have been erected by the Humphreys-Boyd Oil Company on the Teuhuacana Creek below Wortham,

and a 55,000 barrel steel tank is also to be set up in the field for water storage.

A natural gasoline manufacturing plant is to be erected immediately by the Humphreys-Boyd Oil Company on its J. H. Wasson fee land, located a short distance west of the field. This gasoline plant will be equipped to handle 20 million cubic feet of gas daily, and will make use of the charcoal process of extracting gasoline from natural gas. It will be the second charcoal process introduced into Texas, as one is now in operation in the Ibex field, West Texas. The gas produced by the Humphreys-Boyd Oil Company's Simmons well shows a yield of five-eighths of a gallon of gasoline per thousand cubic feet, while a much greater yield can be expected when the pressure subsides. This particular well is producing sufficient gas to provide fuel for 25 drilling tests in the field.

Shallow gas production found at depths ranging from 1000 to 1500 feet and gas obtained from separators on the five completed oil wells in the field is supplying the necessary fuel for drilling in the Wortham field. This shallow gas prevails only in spots, and a few failures completed during the past week are to be carried on down to the Woodbine sand after heavier drilling equipment and derricks can be set up.

The supply companies and tank builders are keeping pace with the flood of orders turned loose by the lease owners in recent weeks, and are making deliveries to the field in trainload lots, especially on casing, small pipe, boilers, gas engines and rotary rigs. Veteran officials of major supply companies concede all honors to the Wortham field for breaking previous records on fast development, and no delay will be experienced by the operators by reason of equipment shortage.

An ample supply of electricity for lighting the field for night operations, and miscellaneous power is to be furnished shortly by the Texas Power and Light Company with a high power line from Corsicana. It is expected that electric power for pumping wells will be used when the head is taken off the field and gas pressure declines.

Water Scarce

Great difficulty is being experienced by the small lease owners in obtaining water for drilling purposes, while Simms, Humble, Gulf, Humphreys-Boyd and several other large operators have private water systems connected to the field by pipe lines. The Texas Pipe Line Company has been the principal water source for the small operators, but an injunction was served against The Texas Company Saturday by the city of Groesbeck restraining them from pumping water from the Navasota River. A number of rigs are standing idle for lack of water, and this number will be increased shortly unless a heavy rain occurs, as none of the companies is favored with an abundant water supply. The Texas Company has been selling water for $20 per day, and obtaining the promise of crude connections if oil is obtained.

Field reports compiled last week prior to the extension of the producing area by the Penn well show 87 tests actively drilling; 81 rigs about ready to spud; 44 derricks, and 64 locations, making a total of 276 operations listed. Approximately 50 new tests are to be added to this list by reason of the extension made by the Penn well. The Humphreys-Boyd Oil Company holds the lead, with Humble running a close second, while the joint operations of Simms and Marland Interests are next in line. Although Magnolia Petroleum Company has only one lease in the field, it is so situated that 14 tests will be drilled immediately on outside locations. Magnolia is doing all of its drilling work, and ordered complete new rotary outfits for 10 wells. Ten 55,000 barrel tanks have been ordered by Magnolia to be carried in stock so as to be available if needed at Wortham.

Further trading of leases has taken place in the field, and the number of companies and operators drilling for oil in the Wortham area has increased to more than 40, with possibilities that 50 separate concerns will be represented on the drilling reports in another week. This large number of lease owners is due to numerous small drilling sites in the townsite, and scattered parts of the field.

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Results of Deep Wyoming Test May Mean Extensive Drilling Campaign

Casper, Wyo., Dec. 15.—Practically every company holding leases within the producing area opened up by the discovery that the Lakota sand bears oil in large quantities, is either planning a test or awaiting further developments as to what may be expected of the sand when the oil is allowed to flow. It is known that the deeper sands usually contain more or less water, even though it has been denied on all sides that the discovery well in this sand has made water at all. The deeper sands also invariably contain a poorer grade of oil than the sands above them.

A very deep well in Wyoming, where the objective is an ordinarily light oil producing sand, is no more likely to bear a poor grade of oil than a shallow well from the same sand. But where a light oil producing sand lies above another sand in the same field the lower sand may be expected to produce a poorer grade of oil. If a third or still deeper sand exists in a certain field this sand will contain a poorer grade of oil than the second or the sand lying directly above it. In other words, if a field has two, three or four producing sands they nearly always contain a grade of oil inversely proportional to the depth found. With only one exception does this fail to apply in Wyoming.

Placing its faith either in a large extension of the Salt Creek and Teapot fields or faulty conditions of the structures, the Teapot Oil and Land Company will drill a well just outside the producing areas of either of the fields. Producers have been brought in within a short distance of this well and favorable reports have been made on the new location. It is planned to test eight and possibly nine sands if it is found necessary.

Contrary to apparently reliable reports that the California Company had brought in a good producer on the Byron dome, section 34-56-96, just outside of Powell, Wyoming, the company has announced that it will drill deeper and not attempt to shut in the well as was first announced by dispatches. Scouts returning from the well said that it would have made eight and possibly 10 barrels of oil if allowed to produce from the initial sand. Many structures exist in this region and several of the larger companies contemplating a leasing program.

Water has been found at various depths in the Midwest Refining's North Casper Creek well and it is rumored that the hole may be abandoned, although no definite announcement has been made. The Columbus Oil Company recently found water in the Tensleep, also the objective of the Midwest's well, and the latter company's spirit has been somewhat dampened by the discovery and little enthusiasm prevails. The well is now drilling wet.

Officials of the Mutual Oil Company have announced that the organization has planned a program for 1925 in the Rocky Mountains that will equal if not surpass that of any previous year, so far as the production and refining end of the industry is concerned. The capacity of the Glenrock, Wyoming, refinery will be doubled while a new plant will be built near Farmington, N. M.

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Los Angeles Shipments

Los Angeles, Calif., Dec. 13.—During the past week, 34 tankers left Los Angeles Harbor carrying 1,444,887 barrels of crude, 753,876 barrels of fuel oil and small amount of gasoline, kerosene and naphtha. Four tankers carried crude to Bayonne and one tanker of naphtha went to Baton Rouge. Nothing went to foreign through the canal. Record for the past two weeks follows:

	Past Week	Prev. Week
Tankers departed	34	16
Total crude moved	1,444,887	488,305
Total fuel moved	753,876	539,044
Total gasoline	76,251	165,657
Total kerosene	73,410	.....
Total naphtha	95,000	.....
Crude, Pacific domestic	640,495	383,305
Fuel, Pacific domestic	460,878	410,044
Gasoline, Pacific domestic	76,251	14,700
Crude, Atlantic domestic	742,482	105,000
Naphtha, Atlantic domestic	95,000	.....
Crude, foreign	61,910	.....
Fuel, foreign	293,000	129,000
Kerosene, foreign	73,410	.....
Gasoline, foreign	.....	74,189

Completions for Past Week in U. S. Fields

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Oklahoma	83	73	54	41	12	5	17	27	40,858	34.012
Kansas	12	19	5	7	2	3	5	9	440	605
Texas	114	93	67	46	11	8	36	39	22,757	9,976
Arkansas	22	10	18	5	1	..	3	5	1,385	480
Louisiana	8	12	2	6	6	2	..	4	200	885
Eastern States	170	184	106	110	41	43	23	31	1,403	2,137
Mountain States	18	3	16	2	..	..	2	1	2,065	90
California	16	19	14	19	1	..	1	..	17,255	7,620
Totals	437	413	278	236	74	61	85	116	86,135	55,805

Note—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudded; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Texas

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Roy I. Carter et al J. H. White 15-E	75	1600
C. H. Champion et al Perry Browning 1, dd	*	720
Cline et al Cowan-Turbeville 1	*	1450
Cochran-McElreath et al Wilson-Anderson 1	*	1702
Clark & Harbin et al Echols 5	35	1329
Duke et al Cowan-Turbeville 1	*	1208
Dorrington et al D. T. Coffman 1	*	1450
Fisher & Gilliland's J. F. Rogers 1	155	1378
Grisham & Parks' C. L. Davis 5	100	1090
Gulf Prod. Co. E. Monahan 1	120	1298
T. L. Griffin 8	80	1290
Oil Investment Co. 2	*	1614
P. F. Gwynn et al M. E. Rogers 4	80	1285
J. A. Wood 2	155	1303
Humble Oil & Ref. Co. Oil Investment Co. 1	150	1198
Humphries et al J. H. White 9	190	1611
J. H. White 12	90	1623
Lyles et al Norton Estate 1	*	1203
Magnolia Pet. Co. W. F. Parrish 11	100	1601
Melat & Graham Goldsmith 2	35	1353
Marland-Murchison & Fain's T. L. Griffin 6	75	1289
T. L. Griffin 7	80	1294
H. Harmel 2-B	300	1390
J. H. White 5-B	65	1592
J. A. Wood 2	210	1300
J. A. Wood 3	230	1295
Mutual Oil Co. & Gardner's H. Harmel 3	250	1276
Petroleum Producers Co. M. E. Rogers 5	95	1278
M. E. Rogers 6	90	1278
Ramming & Saunders W. L. Andrews 1-B	*	1020
L. F. Wilson 5	50	1598
Ray-Massey et al E. A. Hausler 6	300	1129
E. A. Hausler 7	560	1125
J. P. Rayzor et al Edwards 1	*	1602
Riner & Bailey's L. F. Wilson 3-A	*	1825
Scruggs et al J. E. Morrison 1	*	1002
Shamrock Oil Co. Campbell Banking Co. 4	*	1347
Campbell Banking Co. 8	*	1330
Swastika Oil Synd. A. P. Neale 2	100	1097
Texhoma Oil & Ref. Co. E. A. Hausler 9	110	1159
E. A. Hausler 10	300	1136
Willott & Murphy T. L. Griffin 1	150	1308
Woodburn Oil (Simms) Corp. L. F. Wilson 15-A	50	1628

DESDEMONA-GORMAN

Magnolia Pet. Co. R. D. Rogers 4	45	2905
Parsons et al T. L. Scott 1	¶12	3161

EASTLAND-RANGER

Magnolia Pet. Co. B. F. Barnes 7, dd	10	3549
Pittman-Barker & Adams Pettit 1	* 25	1467
Root-Cox et al Wheeler 1	*	3365
Root et al Hart 1	¶10½-15	3245

STEPHENS COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Fouts & Sudderth McCleskey 1	*	3850
Mid-Kansas Oil & Gas Co. Lee 3	60	3270
Pender Prod. Co. C. Hart 1	100	3303
Pennock Oil Co. Jones B-1	*	3192
Price & Russell Bruce 4	25	2105
Triplehorn Pet. Assn. Adams 1	*	4025
Walker-Samuels & Stewart First Natl. Bank Fee 4	†	1750

YOUNG COUNTY

Knight-Hines et al B. B. Colley 1	*	1503
S. R. Jeffery 1	*	1325
J. E. Pringle 1	*	1400
G. M. McGarr et al C. W. Johnson 1	200	4280
Murchison-Fain & Litchfield's R. Campbell 1	35	1048
Union Oil Co. W. F. Keithly 1-A	*	3468

RICHLAND

Gulf Production Co. R. C. Elkins 5	100	3000
R. C. Elkins 4	25	3000
Lenoir Oil Co. Edgar 1	*	3275

POWELL

Gilbert & Johnson Greer 1	*	3560
McMann Oil Co. P. A. Chapman 8	*	3700
Pure Oil Co. McKie 65	*	3100
Texas-Magnolia Kent 30	*	1566

WORTHAM

Kirby Petroleum Co. S. T. Bounds 1	5600	2980
Bob Penn et al's McCorkle 1	6000	3116

ELECTRA

Bob Cook et al Throckmorton 1	5	393
Texhoma & Perkins Burnett Estate 2-B	80	1820

K-M-A AND IOWA PARK

Hawkins-Hester e tal J. A. Watkins 1	90	1763
Sam Kruger et al Allen-Kemp 9	35	1185
Wm. Murray et al Fee 1	*	1800
The Texas Co. K. & K. 1	*	2001

BATSON

Gulf Production Co. Wing 160, wo.	65	1390
Ada Belle Oil Co. Wise 81	5	1145
Acorn Oil Co. Paraffine 48	*	605

GOOSE CREEK

Humble Oil and Refining Co. Jones-Stateland 5, wo	45	2852
Gulf Production Co. Hirsch-State 4	100	4400
Wright 6	45	1600
Stateland Producers 8	40	1975

SOUR LAKE

Gulf Production Co. Tarver Hardin 54, wo	25	1975
Hull—		
Gulf Production Co. Scarborough 13	125	3550
Phoenix Dev. Co. 38	75	2920

WEST COLUMBIA

Company, Well and Location	Initial Production Bbls.	Depth
The Texas Co. Hogg 66, wo	300	3180

BIG CREEK

Oil Production Co. Ahlers 4	42	1910
Gulf Production Co. Wheat 8	*	2900

ORANGE

Gulf Production Co. Kishi Lang 8-A	600	5100
Hager-Moore 10, wo	175	3520
Supreme Oil Co. Jackson 4, wo	325	4280

SOUTH LOUISIANA

Vinton—		
Vinton Petroleum Co. Vincent 13, wo	100	2230
Evangeline—		
Gulf Refining Co. of Louisiana J. C. 25, wo	100	2325

EAST TEXAS

Waskom Gas Field, Harrison County—		
Carmody et al's Furrh 1, Jas. Short H/R sur	¶5	972
Clark et al's Abney 1, J. J. Blair H/R sur	¶10	865
Houze et al's Bryson 1, W. R. Anderson H/R sur	¶10	963
Morefield & Tanner's Abney 1, J. Lipscomb H/R sur	¶20	976
Morris Trust's Hickman 1, E. Pollack H/R sur	¶8	935
Proven Production Co.'s Abney 1, T. D. Wilson H/R sur	¶20	1952
Total, 6 wells	¶73	
Panola Gas Field, Panola County—		
Magnolia Pet. Co.'s Nelse Ford 1, L. R. Booker H/R sur	¶4	1950
Oden 1, E. T. Mitcheson H/R sur	¶3	1965
Total, 2 wells	¶7	

Wyoming

Salt Creek Field—		
Mutual Oil Co.'s Brown 13, NW¼ 32-40-79	200	2520
Bradley 4, 19-40-78	150	2545
29A, 19-40-78	150	2545
Wyoming Oil Fields' No. 8A, SW¼ 23-40-79	820	1574
Mountain & Gulf's 4A, NE¼ 13-40-79	20	2279
34A, SE¼ 12-40-79	40	2428
21A, NE¼ 6-39-78	25	2185
Midwest Oil Co.'s 12, NE¼ 35-40-79	50	1135
Wyoming Associated's 31A, SE¼ 30-40-79	25	2184
15A, NW¼ 26-40-79	60	1501
34A, SW¼ 26-40-79	80	1400
Salt Creek Consolidated's 21A, SW¼ 31-40-78	10	1990
19A, SE¼ 31-40-78	225	2128
10A, NE¼ 31-40-78	10	2350
Douglas Structure—		
Big Soo Oil Co.'s No. 1	*	2741

Company, Well and Location	Initial Production Bbls.	Depth
Hamilton Dome—		
Western States Placer 18, 14-44-98..	100	2364

Colorado

Panuco Exploration's 3.....	*	950

Montana

Kevin-Sunburst—		
Baker et al, NE¼ 4-34-2.....	100	1500

Louisiana

Caddo Parish, Waskom Gas Field—		
State Line Oil & Gas Co.'s Mays 1, 17-17-16	¶15	940
Waterman Drilling Co.'s Waterman 2, 18-17-16	¶15	1916
Total, 2 wells	¶30	
Elm Grove Field, Bossier Parish—		
Palmer et al's McCann 4, 31-16-11..	¶3	1910
Monroe Gas Field—		
LaDel et al's White 3, 33-20-5e, Morehouse Parish	¶11	2230
Fee 31, 20-19-5e, Ouachita Parish.	¶8	2230
Natural Gas Prod. Co.'s Grayling 2, 8-21-4e	¶7	2115
Total, 3 wells	¶26	

Arkansas

Smackover Field, Ouachita County—		
H. E. Clark et al's Smith 1, 26-15-17	65	2395
Yarbrough 1, 26-15-17	40	2340
Forrest Oil Co.'s Cramer 9, 27-15-16	100	2283
Cramer 12, 27-15-16	125	2280
Galloway et al's Hughes 6, 28-15-16.	80	2304
Hildreth et al's Mullens 1, 27-15-16..	60	2309
Hunt et al's Greene B-3, 23-15-17...	80	2294
Anderson A-3, 23-15-17	80	2306
Myatt 1, 22-15-17	40	2387
Hurley et al's Stringfellow 4, 28-15-16	75	2302
Magnolia Pet. Co.'s N. Patton 4, 32-15-16	50	2259
W. F. Patton 3, 31-15-16	50	2282
The Texas Co.'s Reynolds 1, 23-15-17	130	2295
Smackover Field, Union County—		
Amerada Pet. Corp.'s Calloway 1, 4-16-15	*	1864
Baggett et al's Clark 1, 21-16-15....	100	2069
Estes et al's Freeman 4, 1-16-17.....	45	2263
Gulf Production Co.'s Warner 23, 6-16-16	*	1935
Kinnebrew et al's Williams 4, 3-16-15	100	1991
Rutledge et al's Meeks 2, 6-16-16....	130	2260
Sutherland et al's Neeley 3, 1-16-17..	35	2270
The Texas Co.'s Alphin 5, 3-16-15 .	¶20	2321
Total, 21 wells .....¶20-	1385	

California

Dominguez—		
Associated Oil Co.'s DeFrancis 3....6000		4277
Shell Co.'s Reyes 16.....3100		4100
Reyes 17 3500		4411
Rosecrans—		
E. J. Miley's Marland 1.....	800	4422
Barnsdall Oil Corp.'s Rosecrans 2..1900		4386
Union's Howard Park 2.....	600	4944
Torrance—		
Standard's Marble Fee 28.....	170	3740
Sentinel Joughin 17	270	3830
C. C. M. Oil Co.'s Del Amo 9.....	120	3660
Petroleum Midway's Brown 1.....	115	3455
Superior's Torrance 55.....	200	3832
Universial's Moore 4 (wo)	80	3783
Santa Fe Springs—		
General Pet. Co.'s Santa Fe 45....¶1½		2100
Elk Hills—		
Belridge Oil Co.'s No. 7, sec 34-30-24	250	2889
Wheeler Ridge—		
Tejon Pet. Co.'s No. 1 W. G. McAddo Jr.	*	3214
Ventura—		
B. & L. Oil Co.'s Piru, sec 4-4-18...	150	1765

Oklahoma

Burbank Field—		
Carter Oil Co.'s No. 13, C N L NE NE NW 11-27-5	320	3030
No. 14, C N L NW NE NW 11-27-5	210	3031
No. 12, C S L SE SE SW 16-26-6	191	2972
No. 15, NEc NE NW 11-27-5....	192	3048
Carter 11, C E L NE SW NE 11-27-5	804	3047
Lyman 14, C N L NW NE NW 11-27-5	157	3030
No. 16, C E L SE NE NW 11-27-5	1132	3030
Phillips Pet. Co.'s J. Stink 5, C W L NW SW NE 18-27-6.....	150	2983
No. 15, C N L NW NE NE 14-27-5	75	3057
Carter County—		
Amerada Pet. Corp.'s Blow 2, NEc SE NW 28-5s-1	190	1127
Clay 2, C W L SW NW 28-5s-1..	140	1162
Tidal-Osage Oil Co.'s Parsons 2, C NE SW NE 28-1s-3w	140	3392
Simpson & Fell's Cassidy 1, C SE SE SW 27-1s-3w	*	3600
Coal County—		
J. A. Berryman's Star 1, NWc NW NE 34-2-9	*	2930
Creek County—		
Union Pet. & Sup. Co.'s No. 4, Lot 13, Blk 13, C S L SE NW 12-14-6	40	4158
Atlantic Oil Prod. Co.'s McNevins 1, C NW SW SE 17-14-10	100	3447
Josey Oil Co.'s Bear 1, SWc 16-14-10	*	3427
Prairie O. & G. Co.'s McIntosh 1, NWc NW SE 24-14-9	*	3581
Grady County—		
Okla. Nat. Gas Co.'s Ready 2, C NW SE SW 2-4-8w	¶	1491
P. Briscoe's Reed 2, C W L SW SW 25-5-8w	¶	2461
Hughes County—		
Wilcox O. & G. Co.'s Brown 3, C NE SE NW 17-9-9	170	3074
Cosden O. & G. Co.'s Alexander 8, C NW SW NW 3-9-9	300	3329
Kay County—		
Amerada Pet. Corp.'s Woods 35, NWc SW NE 34-25-1w 2616		4146
Woods 40, NEc NW NE 34-25-1w	*	2565
Carter Oil Co.'s Massey 1, NEc 17-27-1w	¶	3462
Comar Oil Co.'s Priloth 1, SEc SE NW 21-29-1w	791	2074
Endicott 8-W, NEc NE SE 34-25-1w	854	4003
Clements 4-W, NEc SE NW 34-25-1w 2860		4158
Williams 1, NEc SE NE 7-27-2 ..	6	4024
Wentz Oil Co.'s McKee 47, SWc NE SW 34-25-1w 4242		4268
Muskogee County—		
M. E. Johnson Harnes 1, SWc SW SE 19-14-19	¶	950
Noble County—		
Healdton O. & G. Co.'s Rence 2-C, C W L NW NW NW 11-24-1w.	16	2637
Comar Oil Co.'s Blubaugh 23-B, NEc SE SW 2-24-1w	16	2210
Okfuskee County—		
Berry Pet. Co.'s Carolina 1, C SW SW NE 31-10-9	*	3615
Okmulgee County—		
Central National Oil Co.'s Barnett 1, C E½ NE SE 34-16-12.....	250	2169
Sheldon Oil Co. et al's None 1, NEc SE NW 34-16-12	300	2179
Osage County—		
Olean Pet. Co.'s No. 2, SEc SE SW 36-26-11	*	2312
Henderson & Holder's No. 5, C N L NE SE 10-25-8	*	2402
Missner & Clough's No. 7, C E L SE SE NW 17-27-12	5	1642
Mid-Kansas O. & G. Co.'s No. 3, C NW SW 21-25-8	15	2689
City of Pawhuska's No. 11, C N½ SE SW 26-26-8	¶	1202
Indian Terr. Ill. Co.'s No. 1, C S½ SW NE 34-29-11	*	2339
Beacon Oil Co.'s No. 1, C N L NW SW 27-29-11	60	995
Sand Springs Home's No. 2, SWc SW NE 29-20-11	¶	1950
Stine et al's No. 3, SEc SE SW 9-21-12	20	1350
Lewis Oil Co.'s No. 2, C E L NW 29-25-8	8	2463
Pawnee County—		
Privitt's Bell 2, NEc NW NW 21-20-6.	*	3258
Magnolia Pet. Co.'s Burgman 2, SEc NW SE 16-20-6	100	3070
Payne County—		
Deep Rock O. & R. Co.'s Derry 1, C NW SE 23-18-3.....	¶	1741
Bill Reese et al's Caesar 1, C NE NE SW 35-19-6	*	1075
Seminole County—		
Roxana Pet. Corp.'s Tiger 1, C NE SE NE 15-10-8	20	3588
Tidal-Osage Oil Co.'s Baker 1, C NW SE NE 8-10-8	485	3452
Magnolia Pet. Co.'s Jones 4, C NW SE NW 32-8-8	36	3238
Cosden O. & G. Co.'s Toney 7, C NE NW SW 4-10-8	557	3440
Toney 3, C S L NE SW 4-10-8...1150		3498
Empire et al's Dunn 1, C SE SW NE 4-10-8 1200		3426
Dunn 2, C SW SW SE 4-10-8....	700	3474
Dunn 4, C S L SW NE SW 4-10-8 1800		3497
Dunn 5, C S L SE NW SE 4-10-8.2400		3460
Dunn 7, C S L SE NE SE 4-10-8.2325		3408
No. 8, C S L SW NE SE 4-10-8..1920		3416
Southwestern Pet. Co.'s Wisner 1, C SW SW NE 4-10-8 2600		3470
Waite Phillips Co.'s Dunn 1, C W½ NW SE 4-10-8 4800		3481
Dunn 2, C E½ NW SE 4-10-8....2500		3490
Dunn 3, C E½ NE SE 4-10-8 1000		3430
Superior Oil Co.'s Baker 4, C SW NE SW 16-10-8	400	3469
Baker 5, C NW SE NW 16-10-8..	300	3490
Stephens County—		
Rymer & Bennett's Carney 1, NWc SW NW 33-1-7w	*	2650
Gant et al's Sims 1, C S L SE SW 6-2-4w	*	3007
Humble O. & R. Co.'s Ploughman 5, SEc NE NW 25-1-9w	50	2078
Lone Star Gas Co.'s Beaver 5-A, NEc NE SE 24-1s-9w	¶	2090
Scott 4, SEc SW SW 28-1s-8w...	15	1730
Tulsa County—		
Broken Arrow Gas Co.'s Perkins 1, SEc SE NE 15-18-14	¶	1318
Shaffer O. & R. Co.'s Partrjdge 3, SEc NW SW 5-19-12	30	1992
Oklahoma Nat. Gas Co.'s No. 656, NEc NW SE 29-20-12	¶	1370
Wagoner County—		
Burwell et al's T. Kelly 1, SWc 10-18-16	*	1180
Bakers Drilling Co.'s Pike 2, C SW NW 18-17-15	70	1832
Dr. A. H. Corder's McKellop 1, SWc SE NE 25-18-15	30	1486
Allen et al's Pike 1, C S L NW NW 20-18-5	*	1420
Burwell et al's Thompson 1, SEc 9-18-16	¶	1135
E. L. Hasell's O. Beck 1, SWc SW NE 3-18-16	*	1055
Winters et al's W. Bird 1, C S½ NW NE 9-18-16	¶	990
Youngman et al's E. Kelly 1, SEc SW SE 2-18-16	*	4300

Kansas

Barton County—		
Jasper & Beschka's Schauf 1, SEc SE NW 11-16-12w	*	3519
Butler County—		
Braden Bros.' Knox 1, NWc SE SW 17-27-7	*	2725
Cowley County—		
Southwestern Pet. Co.'s Harrod 1, NEc 13-31-5	*	3009
Lewis Oil Co.'s Gubbs 1, SWc SW SE 30-30-6	*	2934
Elliott 3, NEc SW SE 31-30-6...	100	2846
Cassoday Oil Co.'s Magnuson 5, C NW NW 14-30-4	40	2811
C. W. Titus Elliott 3, C NW SE SE 31-30-6	150	2896
J. A. Hull's Newman 2-A, C E L NE SW 24-32-4	100	3037
Nathan & Brinn's Goff 2, NWc NE NW 20-34-4	¶	765

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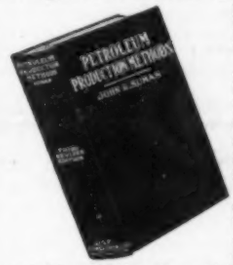

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Company, Well and Location	Initial Production Bbls.	Depth
Kanotrix Oil Co.'s Goff 1, C S L SE SE SW 17-34-4	¶	665
Greenwood County—		
Bisagno's No. 2, C NE NE 6-25-13	*	1644
Marion County—		
Watchorn O. & G. Co.'s Townsend 38, SEc NE NW 5-22-4	50	2489

Eastern States

PENNSYLVANIA

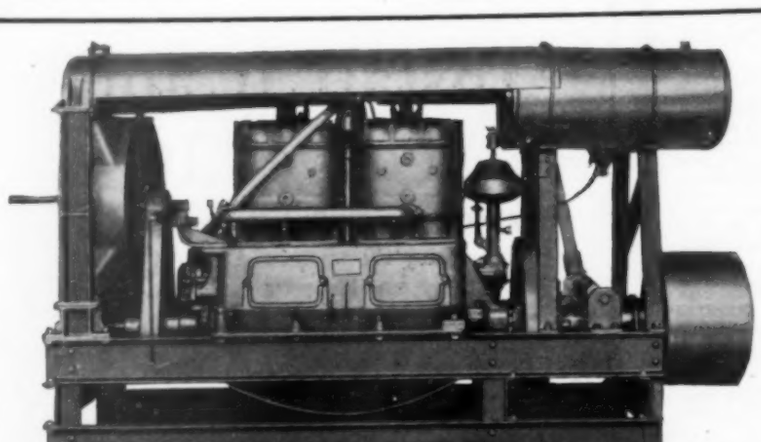
Company, Well and Location	Initial Production Bbls.	Depth
Bradford County—		
South Penn Oil Co. Weston 75	3	....
Weston 76	3	....
Fee 33	2	....
Fee 71	2	....
Fee 88	4	....
Melvin 1	2	....
Melvin 2	2	....
Shepard 1	2	....
Emerson 2	4	....
Bingham 576 tract 96	7	....
Bingham 576 tract 101	2	....
Associated Producers Co. Bingham 308	5	....
Bingham 323	5	....
Bingham 271	2	....
Forest Oil Co. Noble 1	4	....
Franks 2	2	....
W. J. Nealey Emerson 1	3	....
Wann & Co. Bingham 270 tract 34	3	....
Nichols & Potter Keating 2	3	....
D. W. Daly Bingham 369 tract 56	4	....
J. A. Hooper Bingham 431 tract 1	3	....
C. L. Wann & Co. Bingham 388 tract 43	3	....
J. V. Golden Golden 19	3	....
L. G. Dana Dana 1	5	....
Bradley & Moore Quintuple 1	4	....
White & Scofield Bingham 427 tract 1	3	....
Burns Bros. Burns 1	3	....
Schwab & Raff Borden 1	4	....
Venango County—		
McLaughlin & Co. Knep 6	2	....
Leedom & Co. Miles 5	*	....
S. Y. Ramage Hollister 44	2	....
Jackson Oil & Gas Co. Crystal Spgs 7	1	....
S. Sampson Nelson 7	3	....
McDowell & Co. Donaldson 2	2	....
S. Y. Ramage Stiles 73	3	....
S. Mong Tingley 3	2	....
Weaver & Co. Weaver 1	2	....
J. C. Atwell Hollister 13	2	....
Clarion County—		
Kaufman & Co. Corlett 2	¶1	....
Hess & Masters Hector 8	¶1	....
Franklin Trust Co. Verner 5	¶1	....
H. W. Wilson & Co. Corbett 4	¶1	....
McGuire & Co. McGuire 2	2	....
Heeter Oil & Gas Co. Heeter 2	*	....
Butler County—		
A. Rea Rader 4	4	....
Bauer & Co. Bauer 6	3	....
McCullough Gas Co. Kaylor 1	¶1	....
Miller & Steele McCormick 2	3	....
Rape & Co. Rape 3	*	....
Greene County—		
Carnegie Nat. Gas Co. S. D. Martin 1	¶3	....
Greensboro Gas Co. Jas. Mankey 1	*	....
Raymond Gas Co. Enoch Brooks 6	¶2	....
Moore-Tex Oil Co. W. W. Howard 1	¶2	....
Brock, Kennedy & Co. Spencer-Kennedy 1	¶2	....
Mercer County—		
William Kemmery George Fox 1	8	....
Beaver County—		
H. L. Stettler & Co. Spence Heirs 4	2	....
Blackburn & McKibbin H. L. McKibbin 6	2	....
South Penn Oil Co. Lot 3664 tract 37	2	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
Allegany County—		
Empire Gas & Fuel Co. Empire 1	3	....
Empire 2	3	....
Wasson & Sawyer Sawyer 1	7	....
Sawyer & Co. Sawyer 1	3	....
Burrell & Burtch Burtch 1	3	....
Turner Oil Co. Turner 1	3	....
Lavens Estate Lavens 1	4	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Ritchie County—		
Stephens Oil Co. Z. Dornell 2	5	....
Hope Construction & Ref. Co. Davis 1	10	....
E. E. Pope & Co. B. Fox 2	*	....
Pittsburgh & West Virginia Gas Co. Taylor Heirs 1	¶2	....
Carnegie Nat. Gas Co. S. M. Jones 1	¶2	....
R. G. Wiles West Virginia Tract 5	3	....
Lincoln County—		
Cambridge Gas Co. A. L. Mullins 1	¶¼	....
Star Oil & Gas Co. H. C. Osborne 2	¶¼	....
Roy McComas Cane Adkins 1	¶2	....
Ben Adkins 2	¶2	....
Grant Gas Co. A. Spurlock 1	¶1	....
Pleasants County—		
Noland Oil Co. Miller Heirs 4	2	....
Monogahela Oil Co. D. E. Wagner 9	30	....
Bottom Oil Co. T. Wagoner 2	*	....
Harrison County—		
Vesper Oil & Gas Co. A. A. Smith 1	¶¼	3727
Hope Natural Gas Co. Smith Hrs. 1	¶¼	....
A. B. Coffindaffer 1	*	3275
Tyler County—		
South Penn Oil Co. L. H. Hess 1	5	....
Hope Construction & Ref. Co. Noah Booher 1	¶¼	....
Wood County—		
E. S. Griffin C. S. Smith 1	2	....
P. Shore & Co. S. P. Hendershot 1	*	....
Doddridge County—		
South Penn Oil Co. F. Y. Harner 1	¶¼	3300
Hope Natural Gas Co. H. B. Williams 1	¶¼	....
Wetzel County—		
South Penn Oil Co. Elias Batson 4	¶2½	....
J. H. & L. C. Lemly Croit Hunt 6	¶2	....
Marion County—		
Hope Construction & Ref. Co. Arthela Eddy 1	¶2	....
Owens Bottle Machine Co. Ezra Michael 1	¶3	....
Braxton County—		
West Virginia Central Gas Co. C. L. Engle 6	¶2½	....
Carter Oil Co. C. E. Bollinger 1	¶3	....



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Company, Well and Location	Initial Production Bbls.	Depth
Roane County—		
McIntosh & Co. L. A. Short 1	2	....
United Fuel Gas Co. C. C. Riddle 1	¶3	....
Cabell County—		
Harshbarger O. & G. Co. J. T. Blackwood 1	¶¼	....
Ohio Fuel Oil Co. George Alexander 1	*	3820
Putnam County—		
Commercial Gas Co. James Bays 2	¶2½	....
Lewis County—		
White Oak O. & G. Co. F. L. Bond 1	*	....
Calhoun County—		
Chemical Oil Co. G. W. Taylor 1	*	3220
Wirt County—		
Heck Oil Co. S. George 1	*	....

KENTUCKY

Lawrence-Johnson Counties—		
Union Gas & Oil Co. W. D. Lester 4	100	807
Townsend & Garrison C. K. Dobyne 6	40	790
C. K. Dobyne 7	40	788
C. K. Dobyne 8	40	791
Johnson-Magoffin Counties—		
Cumberland Petroleum Co. J. P. Conley 6	14	....
Petroleum Exploration & Wiser Oil Co. Abe Caudill 33	5	....
Superior Oil Corp. W. E. Coffey 2	7	....
Lee County—		
Petroleum Exploration Co. Spence Flannery 14	15	....
Black Gum Oil Co. Gourley-McGuire 8	15	....
Hupp, Duff & Co. James Porter 1	25	....
Rex-Pyramid Oil Co. W. H. Venable 1	¶2	....
Allen County—		
Parson, Bastrus & Co. Wheat 5	20	300
Arthur Dye H. W. Heffington 1	20	....
Frank Seaton Bert Hinton 3	3	285
Neeley, Lamp & Co. Clack 2	*	....
Barren County—		
Wood Oil Co. John Church 1	25	....
Star Oil Co. Ritchie 12	9	....
Mazel Oil Co. Neeley 5	5	482
Consolidated Gas Co. C. Bradford 1	¶1½	580
Owensboro District—		
Panther Creek Oil Co. R. Miller 11	15	740
Kentucky Oil Co. Casenberry 1	*	781
C. E. Daugherty J. Howard 1	*	800
Warren County—		
D. T. Bolling McDonald 1	*	900
J. B. Fetty J. D. Covington 5	10	298
Estill County—		
Scott, Pratt & Co. H. Isaac 1	5	....
Clay County—		
Petroleum Exploration C. Newbrary-Johnson 1	*	....

SOUTHEASTERN OHIO

Washington County—		
Harris & Co. William Yost 2	25	....
Frank B. Rice & Co. George F. Dye 4	2	....
E. W. Thornily & Co. A. T. Dye 4	5	....
McTaggart & Co. Clara Tullins 1	¶1½	1206
Kiggins & Co. William Jones 1	¶2	1188
H. B. Goddard Mary A. Proctor 2	¶4	1205
The Pure Oil Co. Dave F. Turner 1	¶1	1200
Bradford Oil Co. James Marlin 1	¶3	....
C. B. Long & Co. W. P. Wagner 3	*	....
Columbiana County—		
Coraopolis Savings Trust Co. A. L. Stoffer 11	5	....
Noble County—		
Fremont, Haynes & Co. E. C. Davis 1	5	....

CENTRAL OHIO

Licking County—		
Wehrle Interests Frank Darnes 7	2	....
Dr. Montgomery 1	5	....
Edward H. Everette Gas Co. John Patton 1	*	4450
Bishop & Patton J. Guthridge 1	5	....
C. E. Saltzgaber & Son J. & L. Motherspaw 7	5	....
Adams & Moore T. L. Stevens 3	3	....
Knox County—		
East Ohio Gas Co. Allen Scholes 2	5	....
Henry Lower 1	*	....
Arkansas Fuel Oil Co. L. V. Dugan 20	2	....
Hocking County—		
Preston Oil Co. Ethel Crumbilt 1	*	....
J. M. Tom 1	8	....
Holmes County—		
Central Ohio Gas Co. Thomas Allison 2	¶2	....
Perry County—		
Reegan & Co. St. Joseph's Literary Society 1	¶½	....

NORTHWESTERN OHIO

Wood County—		
Davis & Carroll O. Spilker 3	40	1254
H. Wesner & Co. E. Blackall 8	40	1442
Johnson, Hummell & Co. C. Geldin 1	30	1237
J. E. Matzinger B. Brookman 7	15	1198
Virginia Perry R. H. Green 1	3	1373
Mercer County—		
E. Defenbaugh E. Snyder 2	¶3½	574
Penhoma Oil Co. B. Dues 1	*	1254
J. G. Cochran J. W. Shaffer 1	18	1210
Ottawa County—		
River Oil Co. E. Bushman 2	4	1309
O. Lew Luckey Luckey 4	9	1320
Hardin County—		
Whipple, Ulrich & Co. A. Zimmerman 2	100	1470
Paulding County—		
Aetna Drilling Co. Thomas Lamb 3	20	1394
Van Wert County—		
W. H. Young & Co. A. J. Haigh 2	10	1237
Darke County—		
J. C. Hoffman W. H. Long 6	7	1275
Lucas County—		
Waterville Gas & Oil Co. U. G. Denman 1	¶¼	1238

INDIANA

Gibson County—		
Nelson Bros. H. Raiborn 1	14	1329

ILLINOIS

Wabash County—		
John Whiteside & Co. C. E. Courter 1	390	1478
Lawrence County—		
Curtis & Co. H. A. Seed 1	*	1440

Pennsylvania Crude Sales Relieve Line Congestion

Pittsburgh, Pa., Dec. 15.—The week in review shows a total of 170 completed wells east of the Mississippi, with 106 oil producing wells, with a flush production of 1412 barrels, 23 dry holes and 41 gas wells, with a combined volume of 67,250,000 cubic feet of gas, which will be a big help in taking care of patrons using this for fuel purposes in many cities of the East.

The past few days has seen the selling of quite an amount of stored crude that was being held for higher market, and it relieves the congested conditions of the pipe lines. There is great demand for crude of the Pennsylvania grade at this time, and an advance in the price is confidently expected by producers.

With the better feeling among the trade there are now many deals pending for production and acreage in all Eastern fields. The largest deal under way is the vast holdings of the Union Gas and Oil Company in the fields of Eastern Kentucky, containing 20,000 acres, with close to 570 completed wells, and a daily production around 2500 barrels. There have been but eight dry holes found on this big property and 69 gas wells, all others being producers from the Weir sand formation, known for its staying qualities.

The S. E. Kapp lease of 100 acres, located near Rew City in the Bradford area of the Pennsylvania field, has been sold to J. J. Gibson, Herman Gibson, George Gibson, George Hardy and Grover Tuttle, of Bradford, for a consideration of $150,000. The lease has 26 producing wells. While the exact price per barrel has not been announced, it is close to $6000 per barrel.

The best well of the week for the east was found in the Wabash township, Wabash County, Illinois field, which showed a production of 390 barrels, and owned by John Whiteside & Company. The wildcat well drilled by Nelson Brothers, on the Raiborn lease, in section 8, Barton township, Gibson county, Indiana, with a production of 14 barrels, opens up what looks like another important pool for the southwestern part of the state.

Far to the south of the old Trenton lime field of Northwestern Ohio, a 100-barrel well has been struck by Whipple, Ulrich & Company, on the Zimmerman lease, in McDonald township, Hardin county, and makes that area look very promising.

The Union Gas & Oil Company found a 100-barrel flush well on the W. D. Lester lease, in the Lawrence-Johnson County field of Eastern Kentucky, at a depth of 807 feet, which is the Weir sand formation.

Small Oil Production Found in Okotoks Field

Calgary, Alta., Dec. 15.—The most important development in several weeks in the Canadian West is the reported oil strike in the Okotoks field, where the McLeod Oil Company of Calgary, drilling on section 1-20-3w5, has encountered what looks like a small commercial production of light oil at approximately 2400 feet. This is the third oil showing encountered in the McLeod test, which has been drilling intermittently for a couple of years. The first showing was encountered at 2135 feet, about seven weeks ago, and a second showing at 2230 feet a few weeks later. The night after oil was struck the crude rose about 200 feet in the hole. It is a light oil, with .7527 specific gravity; and the horizon at which it is encountered is similar to that in which the other Okotoks wells secure their first production. In most of these wells drilling has been carried deeper, with a larger production, either of oil or gas, around 3500 feet. The McLeod Oil Company test is three-quarters of a mile south of the Royalite Oil Company's No. 4 gasser, drilled in a couple of months ago; but is somewhat lower on the structure. The plant has been shut down pending a capacity test.

Outside this development, operations in the Canadian West are rather quiet. The Irma-Wainwright situation is still rather clouded and uncertain. The Maple Leaf Oil & Gas Company is reported completely shut down. British Petroleums, Ltd., is making very slow progress with its capacity tests.

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Dominguez Field—Shell Co.'s Reyes 22, 33-3-13.

Elk Hills Field—Pacific Oil Co.'s No. 10, 35-30-24.

Conejo Field—J. A. Hess' No. 1, 4-1-20.

Huntington Beach Field—Standard Oil Co.'s Bolsa 19, 34-5-11.

Inglewood Field—Standard Oil Co.'s McAllister 1, 8-2-14.

Los Angeles County—Tonner Oil Co.'s No. 1, 27-2-9.

Midway Field—Honolulu Cons. Oil Co.'s No. 36, 6-32-24.

Richfield Field—Standard Oil Co.'s Kramer 18, 32-3-9.

Rosecrans Field—Walter H. Fisher Corp.'s No. 8, 7-3-13. Sentinel Oil Co.'s Athens 2, 7-3-13; Athens 3, 7-3-13. Petroleum Midway Co. Ltd.'s Baskin 1, 7-3-13; McCormick 1, 7-3-13. Barnsdall Oil Co.'s O'Dea 3, 18-3-13.

San Luis Obispo County—E. J. Miley's No. 1, Lot 11, Rancho de San Miguelito.

Sunset Field—Pliocene Oil Co.'s No. 4, 18-11-23.

Temblor Field—Wesco Pet. Co.'s No. 22, 36-29-20.

Torrance Field—General Pet. Corp.'s Carson 5, 8-4-14.

Yolo County—San Martinez Oil Co.'s E. H. Bemmerley 1, 36-11-1.

KANSAS

Butler County—Shawver & Stroanyder No. 5 Myers, NWc SE SW 27-28-5.

Cowley County—Marland Oil Co.'s No. 1, Nevitt, NEc SW SW 31-32-3; Marland No. 3, Wright, NEc NW NW 10-33-3. Kan-o-Tex Refg. Co.'s No. 2, Goff, SEc NE SE SW 17-34-4.

Greenwood County—Phillips Pet. Co.'s No. 3, Teeter, SWc NW 15-23-9. Mid-Kansas Oil Co.'s No. 15, Martindail, NWc SE SE 31-23-10. Skelly Oil Co.'s No. 1, Inthurm, SEc NW 4-23-13. Shaffer & Howell, No. 11, Schneider, SWc NE SE NW 15-23-13.

Marion County — John Markham's No. 5, Spier, C E L NW NE 8-22-4.

Morris County—Bowman & Jones' No. 1, Wech, SEc NW 21-14-7.

Wilson County—Callahan et al's No. 1, Osborne, NEc SE NE 29-29-17.

Woodson County—Empire O. & F. Co.'s No. 2, Hessler, C S L NE NW 23-23-13, (old well deepened).

OKLAHOMA

Carter County—Amerada Pet. Corp.'s No. 4, Clay, SE SW NE 28-5s-1e; No. 3, Westheimer, SEc NE SE NW 28-5s-1e.

Creek County—Texas Co.'s No. 1 Tahkaney, SEc SE SW 18-17-10. Sherman et al's No. 1, Wanuke, SEc NE SE 19-17-10. Foster et al's No. 1, Lot 6, Block 20, 8-16-12. Suppees et al's No. 3, Lot 3, Funks Subdivision, NEc SE SE NW SW 8-16-12; No. 4, Lot 3, Funks Subdivision, NWc SE NW SW 8-16-12. Billingslea and Skelly's No. 1, Foster, NEc SE SW 30-15-9. Tibbens Oil & Gas Co.'s No. 4, Unalloted Twin, SEc NE SW 30-15-9; No. 5, Unallotted Twin, SWc NE SW 30-15-9. Cumberland Oil Co.'s No. 2, Friday, NWc SE SW 22-15-10. Atlantic Oil Producing Co.'s No. 2, McNevins, SWc SW SE 17-14-10.

Cotton County—Shaffer & Sulton's No. 3, Fox, C SE NW SW 26-2s-11w.

Gray County—Powell & Briscoe's No. 1, J. H. Williams, C NE SW 11-4n-8w.

Hughes County—Independent O. & G. Co.'s No. 5, Sarah Alexander, C NE SE NE 2-9-9. Indian Terr. Ill. Co.'s No. 1, Lizzie Charles, SW NW SW 19-9-9.

Lincoln County—Davenport O. & G. Co.'s No. 1, Townsite, Lot 20, Blk. 40. NEc SW SE NW 10-14-5.

Noble County—Spencer & Vickray's No. 1, Burke, C NE NW NE 4-21-2w.

Okmulgee County—Webster et al's No. 6, Grayson, NEc SE NW SW 3-15-11.

Okfuskee County—Tidal et al's No. 1 Garnett, NWc SW SW 2-11-11. Lyons & French's No. 4, Ingram, NEc SW NW 13-11-11 (old well deepened). Gladys Bell Oil Co.'s No. 8, Holmes, C E L SE SE 13-11-11 (old well deepened). Deaner & Hamison's No. 3, Holmes, SWc SW NE 22-11-11. Slick et al's No. 7, H. Sand, C NE SE SE 35-10-9; No. 8, H. Sand, C NW SE SE 35-10-9.

Pawnee County—Adamson et al's No. 1 Hayden, NEc SE SE 31-21-8. Westerly's No. 6, Smith, SEc SW SW 22-20-6; No. 2-A, Ellis, NEc NW NW 22-20-6. Cosden Oil Co.'s No. 8, School Land, SEc NE NW 15-20-7; No. 9, School Land, NWc NW SW 16-20-7; No. 210, School Land, SWc SW NW 16-20-7. Galvez Oil Co.'s No. 6, Pettit, SEc SE NE 17-20-7.

Payne County—Mulberry Oil Co.'s No. 1, Flint, NEc NW SW 5-17-4.

Seminole County—Pierce Pet. Corp.'s No. 1, C. Jackson, C SE SE SE 33-11-8. Mutual Oil Co.'s No. 2, J. Pierce, C SE SW SE 33-11-8. Sinclair Oil & Gas Co.'s No. 1, J. Pierce, C SE SE SE 33-11-8. Gardner Pet. Co.'s No. 1, Arnay Hill, C SW SW SW 34-11-8. Southwestern Pet. Co.'s No. 5-W, Jackson, C NE NE NW 4-10-8; No. 5-M, Wisner, C NE SE NE 4-10-8; No. 6, Wisner, C NW SE NE 4-10-8; No. 7, Wisner, C NE SE NE 4-10-8. Sinclair O. & G. Co.'s No. 5, Yarbrough, C NW NW NE 4-10-8; No. 6, Yarbrough, C NE NW NE 4-10-8; No. 7, Yarbrough, C NW NE NE 4-10-8; No. 8, C NE NE NE 4-10-8. Magnolia Pet. Co.'s No. 1, Williams, C SE SE NE 5-10-8; No. 1, C. Carolina, NEc NE SE 15-8-7; No. 1, Silas Jones, C NE NE SE 35-8-7.

Stephens County—Magnolia Pet. Co.'s No. 1, W. Johnson, C SW SW SW 18-1s-8w (old well deepened). Fisher & Brannon's No. 4, Worrell, SE NE NW 22-1s-8w. Lone Star Gas Co.'s No. 4, Clarkson, SE SW NW 30-1s-8w.

Tulsa County—Jackson et al's No. 1, Childers, NWc SW NW NE 4-19-12. Echo Oil Co.'s No. 12, Grayson, C W L SW NE 5-19-12. Wade et al's No. 2, Drew, C S L NW NE 1-17-14.

LOUISIANA

Acadia Parish—Gulf Refining Co.'s Jennings-Clement No. 35, 46-9s-2w, 403 ft E and 50 ft N of SW corner. Port City Oil Co.'s Heywood 2, 41-9s-2w, 290 ft N and 150 ft W of SE Corner of Tract.

Bossier Parish—The Palmer Corp.'s Hodges B-7, 30-16n-11w, 680 ft N and 1220 ft E of SW Corner.

Caddo Parish—Brewer & Sewell's R. T. Sharp 1, 10-18n-16w, 200 ft S and 162 ft E of NW Corner of SW¼ of SW¼.

Calcasieu Parish—Roxana Pet. Co.'s Hunter 1, 22-9s-11w, 2653 ft N and 2666 ft W of SE Corner.

Red River Parish—A. H. Tarver's Conly 1, 2-14n-10w, 660 ft E and 330 ft N of SW Corner of SW¼.

Webster Parish—Belchic & Laskey's Pine Woods 2, 28-23n-11w, 660 ft N and 660 ft E of SW Corner. Fortuna Oil Co.'s Pine Woods 1, 27-23n-10w, 330 ft S and 330 ft E of NW Corner of SW¼ of SE¼. Louisiana Oil Ref. Corp.'s Armor 1, 21-23n-9w, 330 ft W and 990 ft N of SE Corner of SW¼. Tidal Oil Co.'s Bodcaw Lbr. Co. 3, 28-21n-10w, 330 ft N and 330 ft W of SE Corner of SE¼ of NE¼.

Winn Parish—J. R. Hall's Eagles 1, 6-10n-2w, 450 ft E and 160 ft N of SW Corner of SE¼ of SW¼.

ARKANSAS

Columbia County—Arkansas Fuel Oil Co.'s Hardy 1, 1-19-22, lcn in NE¼ NW¼.

Nevada County—Smitherman & McDonald's Drake 3, 10-14-21, 150 ft N and E of SWc E½ NW¼ NE¼.

Ouachita County — British Allied Synd.'s Larkin 1, 6-13-18, 200 ft N and W of SEc NE¼ SE¼. Cumberland Pet. Co.'s Reynold's 2, 23-15-17, 200 ft N and E of SWc SE¼ NW¼. H. E. Clark et al's Yarbrough 2, 26-15-17, in SWc S½ SW¼ SE¼. Forest Oil Co.'s Cramer 2, 27-15-16, 200 ft N and W of SEc NE¼ SW¼. Gulf Ref. Co.'s Reynolds 1, 23-15-17, 200 ft N and W of SEc SW¼ NW¼. Howell et al's Williams 2, 3-16-15, center of south line of Williams tract. Jones et al's Farris 2, 34-15-15, 200 ft S and E of NWc SW¼ SE¼. Marine Oil Co.'s Hayes 3, 4-16-15, center of north line of Lot 3, in NE¼ NE¼. J. S. Smith et al's Shirey-Berg 2, 36-15-17, 200 ft N and W of SEc SW¼ NW¼. The Texas Co.'s Ward 1, 23-15-17, 200 ft N and 1120 ft W of SEc NE¼.

Union County—Ark-rado Oil Co.'s Hatfield 5, 7-16-15, 200 ft S and W of NEc S½ NE¼ NE¼. Broderick ½ Calvert's Bradford 2, 8-16-15, 330 ft S and W of NEc NW¼ NW¼. Gulf Ref. Co.'s Warner 18, 5-16-16, 200 ft N and 1520 ft W of SEc of Section. Lion O. & R. Co.'s Graves 6, 3-16-15, center of south line of SE¼ SW¼. Magnolia Pet. Co.'s Scott 1,

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California.

	Number of Wells for Week Ending															
	Aug. 29	Sept. 5	Sept. 12	Sept. 19	Sept. 26	Oct. 3	Oct. 10	Oct. 17	Oct. 24	Nov. 1	Nov. 8	Nov. 15	Nov. 22	Nov. 29	Dec. 6	Dec. 13
Kansas	10	19	6	14	23	21	25	16	12	30	38	23	36	33	44	12
Oklahoma	68	51	73	63	60	66	43	32	47	53	77	61	56	53	68	54
Arkansas	2	19	13	13	12	7	7	16	14	12	9	17	16	16	13	21
Louisiana	7	9	9	12	14	5	10	9	5	19	11	10	11	23	14	11
Texas	82	85	130	78	110	96	86	107	129	103	111	150	111	156	100	146
California	16	18	..	14	19	21	18	22	17	20	23	17	16	14	21	19
Total	185	201	231	194	238	216	189	202	224	237	269	278	246	295	260	263

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12-16-17, 200 ft S and W of NEc NE¼ NW¼. Natural Gas & Pet. Co.'s Murphy 5, 8-16-15, 200 ft N and W of SEc of Section. Ohio Oil Co.'s Pate 1, 10-16-15, old well to be deepened. Standard Oil Co.'s Alphin 9, 3-16-15, Lot 4, NE¼. Nye Wilson's Hayes 4, 4-16-15, NWc of lease in NE¼ of section.

TEXAS

Archer County—Petroleum Prod. Co.'s F. W. Pollei No. 2, Thos. McCoy sur, 150 ft to N and E lines; F. W. Pollei No. 3, Thos. McCoy sur, 450 ft to E and 150 ft to S line; F. W. Pollei No. 4, Thos. McCoy sur, 518 ft N No. 1; E. A. Hausler No. 1, Hardaway & McCoy sur, 150 ft to N and W lines. Gulf Prod. Co.'s T. L. Griggin No. 1, 1600 TE&L sur, 150 ft to N and E lines. E. M. Hinshaw's T. Mankins No. 3, SP Ry sur, 450 ft to N and E lines. Shaw & Rathke's W. O. Hayter No. 1, 1598 TE&L sur, 150 ft to S and E lines. T. J. Pyle's L. F. Wilson No. 1, blk 23, Amer Trib sur, 150 ft to N and E lines. Archer Oil Co.'s M. Dowlen No. 1, sec 2, HT&B Ry sur, 150 ft to N and E lines. Panhandle Refining Co.'s C. L. Davis 7-A, BBB&C Ry sur, 300 ft N No. 6; C. L. Davis 2-B, Jas. Hopkins sur, 200 ft W No. 1; A. Berdon 6-A, Jas. Hopkins sur, 450 ft W No. 5; W. J. Ragle 8-B, R. D. Newman sur, 319 ft E No. 4. Gordon & Sullivan's D. L. Harlason No. 1, blk 19, Probert sur, 150 ft to N and W lines. Camp Oil & Gas Co.'s E. M. Hughes No. 1, D. C. S. L. sur No. 3, 450 ft to W and 150 ft to S line. Oil Inv. Co.'s Fee No. 3, J. Richards sur, 300 ft S No. 2. P. F. Gwynn's J. Marshall No. 1, 3401 TE&L sur, 150 ft to S and E lines. R. R. Robertson's J. H. White No. 6, blk 35, Amer Trib sur, 300 ft S No. 5. Sun Oil Co.'s F. C. Green No. 4, BBB&C Ry sur, 300 ft W No. 1.

Bexar County—Buckeye Union Oil Co.'s A. J. Swearingen No. 1, H. Peace league, 750 ft to N and 1000 ft to E line.

Brazoria County—Freeport Sulphur Co.'s Fee 617, C. Areola sur, 602 ft SW NE Cor Z. Gayle's Gayle & Dunsmore No. 1, W. J. Russell sur, 500 ft to W line.

Brown County — Moore & Wilson's J. K. Gafford No. 1, Wm Miller sur, 165 ft to S and E lines. Gilman & Conway Bros.' J. W. Newton No. 3, Wm. Miller sur, 300 ft W No. 2.

Baylor County—J. R. McCaldin's C. L. Martin No. 1, S. T. Sheffield sur, 315 ft to E and 150 ft to S line. S. McGregor's E. S. Wallace No. 1, sec 7, blk 14, HT&B Ry sur, 150 ft to S and W lines.

Caldwell County—United North & South Oil Co.'s A. J. Baker No. 28, Guadalupe County; M. Mercer No. 10, Reaville & Dykes sur, 300 ft SE No. 9; M. Moore No. 11, John Henry sur, 475 ft NE No. 2; A. Mercer No. 11, Reaville & Caldwell sur, 600 ft S No. 6; T. C. Gideon No. 8, M. G. Dykes sur, 300 ft S No. 2.

Eastland County—Corzelius Bros.' E. D. Dulin No. 1, sec 42, H&TC Ry sur, 500 ft to N and 250 ft E line.

Fort Bend County—Gulf Prod. Co.'s Invincible Oil No. 2, T. Hobermaker sur, 497 ft to S and 1171 ft to E line.

Falls County—Groover & Stiles' J. S. Collins No. 1, G. Barquez sur, 1000 ft to E and 150 ft to S line.

Freestone County—Gulf Production Co.'s W. D. Wilson No. 3, S. McAnulty sur, 700 ft to W and 152 ft to S line; W. D. Wilson No. 4, S. McAnulty sur, 150 ft to N and E lines; W. D. Wilson No. 2, S. McAnulty sur, 450 ft to W and 152 ft to S line; N. H. Lindley No. 1, R. B. Longbotham sur, 150 ft to S and E lines; N. H. Lindley No. 2, R. B. Longbotham sur, 450 ft to S and 150 ft to E line; N. H. Lindley No. 3, R. B. Longbotham sur, 300 ft N No. 2; Y. L. Simmons No. 2, R. B. Longbotham sur, 450 ft to N and 150 ft to E line. Humble Oil & Ref. Co.'s E. D. Crouch No. 1, R. B. Longbotham sur, 150 ft to N and W lines; E. D. Crouch No. 3, R. B. Longbotham sur, 150 ft to S and W lines; Roy Simmons No. 1, R. B. Longbotham sur, 150 ft to N and W lines; N. R. Ferguson No. 1, R. B. Longbotham sur, 150 ft to N and W lines. Southern Exploration Co.'s F. D. Wright No. 1, Wright Addition, 82 ft to W and 97 ft to S line; F. D. Wright No. 2, Wright Addition, 83 ft to E and 97 ft to S line. Pure Oil Co.'s E. D. Crouch No. 1, R. B. Longbotham sur, 150 ft to S and E lines; S. T. Bounds No. 1, R. B. Longbotham sur, 150 ft to S and E lines; S. T. Bounds No. 2, R. B. Longbotham sur, 300 ft SW No. 1. Kirby Pet. Co.'s S. T. Bounds No. 2, R. B. Longbotham sur, 150 ft to S and E lines; S. T. Bounds No. 3, R. B. Longbotham sur, 300 ft W No. 2; F. D. Wright No. 1, Wortham sur, 150 ft to S and E lines; F. D. Wright No. 2, Wortham sur, 150 ft to N and E lines; K. W. Chancellor No. 1, Wortham sur, 150 ft to S and E lines; K. W. Chancellor No. 2, Wortham sur, 150 ft to N and E lines; K. W. Chancellor No. 3, Wortham sur, 150 ft to S and W lines; Mrs. A. Watson No. 1, R. B. Longbotham sur, 90 ft to E and 150 ft to S line; Mrs. A. Watson No. 3, R. B. Longbotham sur, 150 ft to N and W lines. Simms Oil Co.'s W. Calame No. 2, R. B. Longbotham sur, 150 ft to N and W lines; W. Calame No. 3, R. B. Longbotham sur, 150 ft to N and E lines; Mrs. J. J. Manning No. 1, S. McAnulty sur, 150 ft to N and W lines; Mrs. J. J. Manning No. 2, S. McAnulty sur, 150 ft to N and E lines.

Guadalupe County—United North & South Oil Co.'s A. J. Baker No. 28, H. Cottle sur, 488 ft W No. 22.

Harrison County—Gulf Prod. Co.'s Waterman Lbr. Co. No. 1, E. Pollack sur, 2990 ft to N and 360 ft to E line. Simms Oil Co.'s J. W. Furrh No. 1, James Short sur, 1035 ft to W and 150 ft to S line. Magnolia Pet. Co.'s Charles Dudley No. 1, M. D. Edwards sur, 1320 ft to N and E lines. A. R. Carmody's J. M. Bryson No. 1, Jenkins sur, 150 ft to N and 261 ft to E line. H. C. Morris' Mrs. C. B. Hickman No. 2, 300 ft to N and W lines.

Hutchinson County—New Domain Oil & Gas Co.'s L. E. Borton No. 1, sec 33, NE cor.

Harris County —Humble Oil & Ref. Co.'s Wilson No. 16, Jas. Strange sur, 32 ft to S and E lines. Marsalis Bros.' Long No. 3, Jas. Strange sur, 126 ft E No. 12.

Hardin County — Acorn Oil Co.'s Paraffine No. 50, Green sur, 318 ft to N and 90 ft to W line.

Jim Hogg County—Magnolia Pet. Co.'s O. Thompson No. 1, Las Animas sur, 150 ft to N and W lines.

Jefferson County — Gulf Prod. Co.'s Gladys No. 210, J. A. Veatch sur, blk 31, 100 ft to N and 130 ft to E line.

Liberty County—Republic Prod. Co.'s A. S. J. Stevenson No. 1, B. W. Hardin sur, SE cor.

Live Oak County—Geo. B. Pickett's J. W. Mickle No. 1, J. Sparks sur, 200 ft to N and W lines.

La Salle County—P. S. Crotty's H. O. Campbell No. 1, O'Conner sur, 200 ft to W and 350 ft to S line.

Limestone County — Sun Oil Co.'s S. T. Bounds No. 1, S. McAnulty sur, 150 ft to N and W lines; S. T. Bounds No. 2, S. McAnulty sur, 300 ft E No. 1. Gulf Prod. Co.'s H. F. Ferguson No. 4, S. McAnulty sur, 375 ft to N and 350 ft to W line; H. F. Ferguson No. 2, S. McAnulty sur, 549 ft to W and 150 ft to N line; H. F. Ferguson No. 3, S. McAnulty sur, 603 ft to S and 150 ft to W line; H. F. Ferguson No. 1, S. McAnulty sur, 150 ft to N and W lines. Magnolia Pet. Co.'s N. B. Boyd No. 1, S. McAnulty sur, 650 ft to W and 250 ft to S line; N. B. Boyd No. 2, S. McAnulty sur, 365 ft E No. 1; N. B. Boyd No. 3, S. McAnulty sur, 355 ft E No. 2; N. B. Boyd No. 4, S. McAnulty sur, 355 ft E No. 3; N. B. Boyd No. 5, S. McAnulty sur, 150 ft to S and E lines; N. B. Boyd No. 6, S. McAnulty sur, 321 ft N No. 5; N. B. Boyd No. 7, S. McAnulty sur, 321 ft N No. 6; N. B. Boyd No. 8, S. McAnulty sur, 310 ft N No. 7; N. B. Boyd No. 9, S. McAnulty sur, 331 ft N No. 8; N. B. Boyd No. 10, C. McAnulty sur, 369 ft N No. 9; N. B. Boyd No. 11, S. McAnulty sur, 369 ft N No. 10; N. B. Boyd No. 12, S. McAnulty sur, 369 ft N No. 11; N. B. Boyd No. 13, S. McAnulty sur, 369 ft N No. 12.

Matagorda County—Rycade Oil Corp.'s W. H. Gray No. 2, Wm. Hadden sur, SE Cor.

Milam County—W. W. Bynum's Niehaus-Isaacs No. 8, T. J. Chambers sur, no lcn.

Orange County—Sun Oil Co.'s W. M. Gunstream No. 6, Wm. Dyson sur, SW Cor.

Panola County—D. Thomason's A. Douglas

No. 1, W. H. Lacey sur, 2250 ft to W and 2100 ft to S line; Trosper et al No. 1, J. Thorpe sur, 150 ft to E and 3090 ft to S line; E. Vinson No. 1, J. Dunlay sur, 1429 ft to N and 200 ft to W line. J. D. Houston's Roquemore No. 1, P. M. May sur, 200 ft to N and E lines; C. E. Lawless No. 1, J. L. Matthews sur, 210 ft to E and 200 ft to S line. Magnolia Pet. Co.'s W. R. Hudson No. 1, W. H. L. Headright sur, 200 ft to S and W lines; G. C. Tiller No. 1, J. Thorpe sur, 660 ft to S and W lines; F. E. Estes No. 1, B. Lovell sur, 660 ft to N and W lines.

Stephens County—G. H. Johnson Co.'s G. H. Gandy No. 4, blk 8, TP Ry sur, 530 ft to N and 330 ft to W line. Interstate Consolidated Oil Co.'s Lane Bros. No. 4, sec 11, TP Ry sur, 400 ft to N and 320 ft to W line.

Shackelford County—Texhoma Oil & Ref. Co.'s W. L. English No. 3, blk 18, University Lands sur, 1155 ft to N and 150 ft to W line.

Upshur County—Nichols & Concannon's R. L. Cannon No. 1, M. H. Pulvador sur, 795 ft to W and 330 ft to N line.

Wilbarger County—Scott, Bullard & Peterson's Mrs. A. T. Boger No. 1, blk 12, H&TC Ry sur, 660 ft to S and E lines. South Vernon Oil Co.'s W. H. Stephens No. 9, sec 83, H&TC Ry sur, 780 ft to N and 150 ft to W line.

Webb County—Magnolia Pet. Co.'s Garcia No. 19, sec 1055, Y. Guiterrez sur, 550 ft E No. 17.

Wharton County—Gulf Prod. Co.'s M. B. Cloud No. 2, S. F. Austin sur, 2000 ft to W and 100 ft to N line.

Wichita County—Pois & Britain's Kemp & Allen No. 8, sec 9, W. V. F. L. sur, 520 ft to S and 150 ft to E line. Ryan Pet. Co.'s George Nance No. 27, S. O. Fowler sur, 350 ft W No. 26. Drillers Dev. Co.'s L. P. Douglas No. 5, Day Land & Cattle Co. sur, 150 ft to N and W lines. T. J. Kennedy's J. Moore No. 5 BBB&C Ry sur, 300 ft S No. 3. Stockholders Service Bureau Corp.'s F. P. Warren No. 3, DL&K sur, 432 ft to W and 150 ft to S line. S. A. Cochran's Weeth Estate No. 2, sec 1, SP Ry sur, 300 ft W No. 1. J. L. Elliott's J. M. McFall No. 1, blk 127, H. B. Balch sur, 150 ft to S and E lines. Gulf Production Co.'s S. B. Burnett No. 28, sec 1, T&NO Ry sur, 300 ft W No. 27. R. R. Robertson's S. H. McCarty No. 2, S. O. Fowler sur, 450 ft to S and 150 ft to E line. Ferguson, Hawkins & Hoster's J. A. Watkins No. 2, 46 W. V. F. L. sur, 150 ft to S and E lines. D. J. Oil Co.'s Callahan Land No. 2, sec 160, I&GN Ry sur, 150 ft to E and 1650 ft to S line. Shappell Oil Co.'s S. H. McCarty No. 2, W. R. Eaves sur, 300 ft W No. 1. Bullington et al's McCarty No. 5, S. O. Fowler sur, 567 ft to N and 150 ft to E line. Gulf Prod. Co.'s J. L. Waggoner No. 6, sec 11, BS&F Ry sur, 300 ft W No. 1. Pet. Prod. Co.'s Kemp & Allen No. 2-C, blk 26, J. A. Kemp sur, 150 ft to N and E lines. F. C. Baldwin et al's J. W. Kennedy No. 22, blk 6, GC&SF Ry sur, 300 ft N No. 1. Roy I. Carter's S. B. Burnett No. 35, HT&B Ry sur, 300 ft W No. 3. Shaw & Lee's A. V. McCarty B-1, W. R. Eaves sur, 150 ft to S and W lines; B-2, W. R. Eaves sur, 300 ft NW No. 1. R. V. Dillard's W. H. Chilson No. 1, sec 7, DCSL sur, 150 ft to N and W lines.

Young County—Camp Oil & Gas Co.'s J. W. Davis No. 1, sec 4, GB&N sur, 660 ft to N and W lines. Mitchell, Jones & May's J. Marshall No. 1, 3401 TE&L sur, 950 ft to W and 510 ft to N line. C. H. Verschoyle's M. F. Wells No. 1, 206 TE&L, 150 ft to N and W lines. Eureka Drilling Co.'s R. Campbell No. 1, blk 8, 3401 TE&L sur, 150 ft to N and W lines. Davis Hart Co.'s J. B. Blanchette No. 1, 272 TE&L sur, NW cor. Kentucky Oil Corp.'s J. W. Bullock No. 1, 331-332 TE&L sur, 150 ft to S and W lines. Simms Oil Co.'s J. D. Carpenter No. 2, 237 TE&L sur, 355 ft N No. 1; J. D. Carpenter No. 3, 237 TE&L sur, 150 ft to N and E lines; J. D. Carpenter No. 4, 237 TE&L sur, 355 ft S No. 1.

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WILDCATS FROM ALL SECTIONS

Humble Proposes Line to Reagan County

Big Lake output is being held back and drilling delayed pending erection of tanks

By H. H. King
Staff Representative

Fort Worth, Texas, Dec. 15.—The slow rate of depletion of the seven flowing wells in the Big Lake field, West Texas, is forcing the two concerns holding all the present proven acreage in the field to delay active drilling operations until tankage facilities can be completed by the Reagan County Purchasing Company, Inc. (Marland Interests). Although the contract has become effective, the Reagan County Purchasing Company will not have its first group of steel storage tanks erected in the field until after the first of the year, and is still limiting its crude takings to tank car shipments from the field to its loading docks at Texas City.

A pipe line outlet for the Big Lake field is practically assured within the next 12 months, and the Marland Interests have completed survey and taken option on right of way for an 8-inch line to be built from the field to San Angelo, a distance of about 75 miles. This line was planned to enable the Reagan County Purchasing Company to pipe its purchased crude from the field to San Angelo and take advantage of a reduced freight rate offered by the Santa Fe Railroad in making deliveries to the Texas City terminals. Officials of the Marland Interests have since announced that Humble Pipe Line Company would extend its 8-inch line to the Big Lake field from its main pump station at Comyn, Comanche County, Texas, to serve as a carrier in handling all the crude contracted for by the Reagan County Purchasing Company. Humble is a subsidiary of Standard of New Jersey, and the latter company is the major outlet for crude produced by the Marland Interests in the Mid-Continent district. Humble can build to the Big Lake field with about 200 miles of line, while more than 400 miles of pipe would be required for Marland to build from the field to its tank farm and loading terminals at Texas City.

Humble's Line Building

Evidence that Humble is contemplating increased crude runs from Central West Texas in the near future is shown by work being started some weeks ago in looping its 8-inch trunk line between Comyn and Hearne junction station, although daily crude runs are considerably below the existing capacity of the line. About 3800 feet of line loop had been completed out of the Comyn station when the new Wortham field broke loose, and all the pipe construction crews were temporarily transferred to Wortham to enlarge Humble's East Central Texas lines to handle expected flush production. It has been announced that work of looping the Comyn-Hearne line will be resumed as soon as the rush at Wortham is over, and an extension to the Big Lake field will probably be the next major project started by Humble.

The Big Lake field is producing in excess of 10,000 barrels of high gravity oil daily, with five of the Big Lake Oil Company's largest wells flowing against back pressure installed on the Smith separators in order to conserve its limited storage room until the Reagan County Purchasing Company's tankage is available. Back pressure ranging from 5 to 75 pounds is being carried on these wells, which are numbered from 9 to 13, inclusive, and has been used almost continuous since December 1. The Big Lake Oil Company has two more tests on the sandy-lime pay, but same will not be drilled in until the completed wells can be flowed to capacity, while in the meantime no new locations have been made.

Producer Added

The Texon Oil and Land Company completed another flowing well on the east edge of the field last Wednesday, and the initial flow amounted to 3050 barrels after drilling 38 feet into the pay to a total depth of 2988 feet. This well is located in the center of the southwest quarter of section 36, block 9, and is less than one-half mile northeast of the same company's group 1 producer, which was completed October 22, making 1800 barrels, and continues to flow about 1200 barrels daily. No water is showing in these two wells. The latest addition to the field was holding to 3015 barrels daily for the 24 hour period ending December 14.

The Big Mesa Oil Company of Los Angeles, has made location to drill a wildcat test in the center of the northwest quarter of section 17, block 3, Upton County, and seven miles northwest of the Big Lake field. This company holds leases on sections 3 to 10, inclusive, and sections 15 to 22, inclusive, all in block 3. W. S. Willis, geologist, is in charge of the company's operations in Texas, and headquarters are at Best, Texas.

The Transcontinental Oil Company's University 1, located in section 10, block 1, and about four miles south and slightly west of the Big Lake field, failed to make a producer in the regular sandy-lime pay, and has shut down at 3205 feet. The Crockett Drilling Syndicate's University 1, located in section 9, block 9, and about four miles northeast of production, has reached a depth of 3100 feet without showing signs of making a well.

Officials of the Standard Oil Company of California, which is represented in Texas by The California Company, visited the district offices of the operating subsidiary at Colorado City late last week. The California Company is the largest producer and lease owner in Mitchell County, and holds considerable protection acreage in the Reagan County district, with one test drilling on the south end of the Big Lake field.

Shallow Oil Found Over Wide Area of Montague

Wichita Falls, Texas, Dec. 15.—Shallow oil production is being proven to exist over a large area in the upper part of Montague County, and a second sand is showing oil production for a northeast extension to the field.

The Petroleum Producers Company's C. H. Howard 1, Finess Robertson survey, uncovered the lower pay last week after drilling five feet into an oil sand with total depth of 1400 feet, and is standing with 200 feet of oil in the hole while fishing for junk. This test failed to make a producer in the regular 900-foot sand, and tested salt water at 1035-37 feet. The shallow field was extended a short distance to the south last week when Phil Lesh and associates' Mrs. Salmon 1 boiled over the casing after drilling oil sand from 933 to 944 feet. The oil produced by this well is low gravity.

The Texas Company's Issac Gist 2-A, which extended the shallow field to the west some weeks ago, has proven to be the best producer completed to date, and averaged 80 barrels daily after pumping 9 days from sand at 919-29 feet. Another test is to be drilled by The Texas Company on this lease, while drilling was started last Wednesday with a star machine on the Mrs. M. H. Salmon lease.

The Texhoma Oil and Refining Company has made location for a test to be drilled on the J. W. Maddox lease in the center of the field, while the

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Owenwood Oil Corporation's star machine location on the Salmon land is delayed pending the completion of a water well. H. F. Mitchell is to use a star machine in drilling a test for shallow gas on the Robert Hines land.

The Guaranty Fund Oil Company's deep test on the Jordan land, located east of Nocona in upper Montague County, has been given up as a junked hole at 3466 feet. In the same section of the county, Gulf Production Company's Benton 1 is fishing casing at 3530 feet.

Major companies and independent producers in Southern Oklahoma fields and Texas are acquiring scattered lease protection in the vicinity of the Big Indian Oil and Development Company's wildcat producer on the Davis farm in Cooke County. This well came in November 9 with a small flow of high gravity oil from pay at 3521 feet, and continues to make an occasional head when agitated.

Waskom Gas Field Extended; Much Activity in Evidence

Shreveport, La., Dec. 15.—The Waskom gas field was extended a mile and a half south by the completion last week of the Proven Production Company's No. 1 Abney, T. D. Wilson Headright survey, which came in with an initial production of 20 million cubic feet of gas per day from the deep (Blossom) sand, at a total depth of 1952 feet.

The productive area of the shallow (Nacatoch) sand was extended a quarter of a mile farther east, into Caddo Parish, La., by the completion of the State Line Oil and Gas Company's No. 1 Mays, in section 17-17-16, which is credited with an initial production of 15 million cubic feet of gas per day from a total depth of 940 feet.

One sees a regular forest of derricks on approaching the Waskom gas field, which, although the newest field in

Magnolia's Production Holds Up Volume Of Pipe Line Runs; Refined Shipments Up

Dallas, Texas, Dec. 15.—Magnolia Petroleum Company's daily crude runs from various fields in Oklahoma, Texas, Arkansas, Kansas and Louisiana averaged 75,044 barrels during November, as compared to a daily average of 74,769 barrels in October, or a gain of 275 barrels. Magnolia's success in building up its own production to about 40,000 barrels daily in the five states, and increased crude purchases in Oklahoma fields, forestalled a slump in daily runs during November, as its runs from Texas fields were curtailed by loss of connections and natural decline of production in old fields. Less crude was handled by Magnolia in November than during the month previous by 66,517 barrels, owing to the difference in the number of days in the months, but the daily average was higher in the former month.

Magnolia is producing and purchasing more crude from Oklahoma fields than the combined total runs made by the company in Texas, Louisiana, Arkansas and Kansas, and has experienced an irregular decline in crude runs from Texas fields since the flush production passed in the Corsicana-Powell field last spring. Magnolia's daily average crude runs from Oklahoma and Kansas fields during November amounted to 25,890 barrels, or a loss of 3632 barrels. Magnolia's total runs from the Wewoka-Cromwell district in Oklahoma, exceeded 500,000 barrels per month for the past two months, and an average of 18,941 barrels were handled from this district in November.

Tanker shipments of fuel oil and refined oils (gasoline, kerosene and lubes) made by Magnolia during November from its Beaumont water terminals were greater than have been reported in some months, but crude shipments fell off about 170,478 barrels. Water shipments made to foreign countries and also to the East Coast by Magnolia during the past four months follows:

	Fuel Oil (Gallons)	Refined Oils (Gallons)	Crude (Barrels)
August	11,299,309	33,185,055	290,129
September	4,383,521	17,558,649	187,927
October	11,726,891	42,803,944	395,992
November	15,184,114	45,663,926	225,514

Magnolia Petroleum Company's crude runs by fields for October and November follows:

Fields—	Oct. Totals in bbls.	Nov. Totals in bbls.
Wewoka-Cromwell	520,797	568,240
Healdton	201,419	197,535
Yale	92,092	161,107
Cushing	155,544	137,835
Hewitt	135,982	128,845
Bristow	63,930	74 266
Duncan	70,135	64,146
Augusta	36,874	31,815
Cement	28,478	28,035
Walters-Beaver Creek	10,240	8,434
Totals for Okla. and Kans.	1,315,491	1,400,258
Luling	380 081	330,729
Electra and Burkburnett	270,951	252,664
Mexia	53,361	46,801
Desdemona-Comanche	42 280	41,694
Mirando	35,266	31,939
Stephens County	32,464	24,319
Ranger-Olden	18,572	20,411
Corsicana-Powell	63,429	12,117
Corsicana (Heavy)	10,615	9,311
Petrolia-Clay County	5,596	4,741
Thrall-Williamson County	2,395	1.787
Coleman County	176	191
Totals for Texas	915,186	776,704
Totals for Arkansas	58,133	49,645
Totals for Louisiana	29,026	24 712
Grand Total for 5 states.	2,317,836	2,251,319

Louisiana-Arkansas territory, is rapidly taking on the appearance of a real full-fledged producing district.

The Gulf Production Company has begun drilling in its No. 1 Waterman Lumber Company, on the E. Pollack survey, a deep test to be drilled in search of oil production under the terms of an agreement whereby the oil rights under a considerable block of leases were obtained from the State Line Oil and Gas Company. It will be recalled that the Gulf Company drilled the original Barlow discovery well, said to have been a 40 barrel oil well, which served to blaze the trail along which was conducted the prospecting which resulted in the discovery of the new gas field.

The Magnolia Gas Company's line from Webster Parish, via the Waskom gas field to Beaumont, was completed last week.

Court Action Against Monroe Gas Producers

Monroe, La., December 15.—Bills of information were filed last week against the Carson Carbon Company, the Consumers Gas Company and the Thrift Oil and Gas Company, charging the production of gas in excess of the quotas provided by conservation laws and regulations designed to prohibit the waste of gas in the Monroe district. The bills were filed by D. I. Garrett, district attorney, acting under a newly-enacted section of Louisiana law covering the criminal prosecution of corporations, and are based upon meter readings and calculations furnished by H. W. Bell of Shreveport, supervisor, minerals division, state department of conservation. It is expected that the cases will be set for trial during January, 1925.

It is alleged in the charges that the defendant companies have drawn from their properties approximately 30,000,000 cubic feet of gas in excess of the amounts allowed by the conservation laws and regulations.

Smackover Production Falls Below 100,000

El Dorado, Ark., Dec. 15.—Smackover production averages fell below 100,000 barrels per day last week, for the first time in many months. Heavy oil production has declined to around 66,500 barrels per day, and light oil averages have fallen to around 29,500 barrels per day.

The flush production from current completions no longer sustains the production averages, which have been falling steadily, week by week, since the peak of 152,000 barrels per day was reached in June of this year. The development campaign is now being finished up in a leisurely manner, and only mediocre wells are being brought in, on inside locations.

The Lion Oil and Refining Company is building a derrick for its Graves No. 6, in the southeast quarter of the south-

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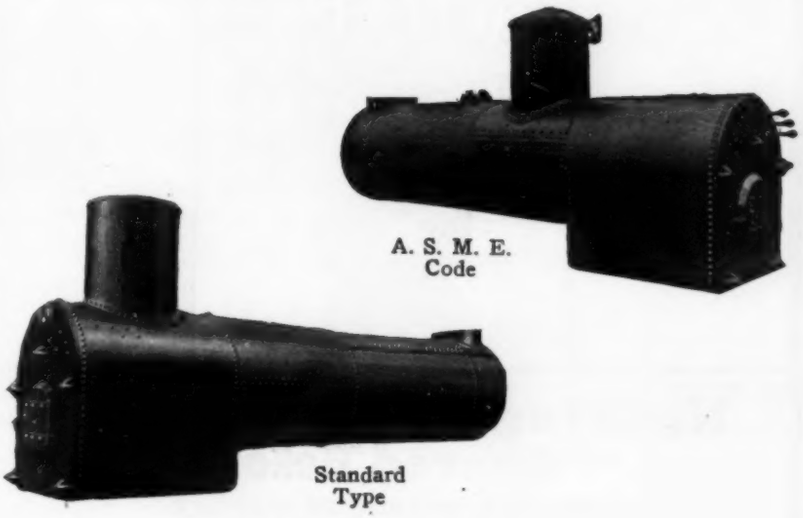

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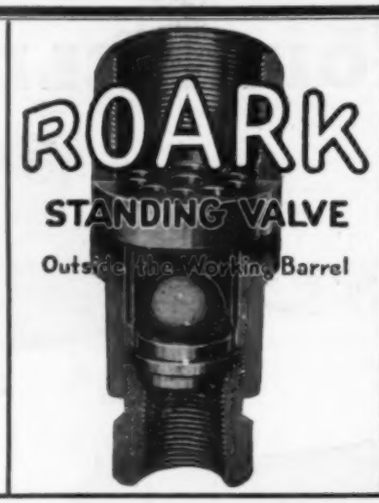

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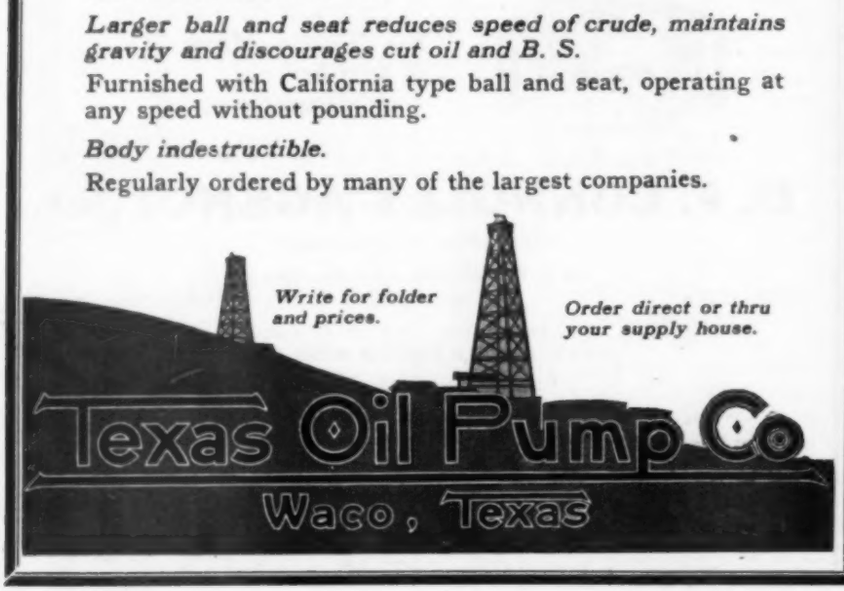

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west quarter of section 3-16-15, of the Norphlet area, in Union County. It will be recalled that No. 5 well, on this same lease, showed a considerable quantity of oil from the 2300 foot sand, from which no commercial oil production has as yet been obtained in the heavy oil district. It is said that a thorough and careful test of this horizon is to be made in the new well.

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Wilson spring latch elevators are fully described in Wilson & Willard Manufacturing Company's latest catalog, No. 24A.

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The elevator is made in several sizes ranging from those for extremely heavy duty to types adapted for light work.

Wilson & Willard Manufacturing Company, 2301 E. Vernon Avenue, Los Angeles, California, will send further information and a copy of the catalog upon request.

Coastal Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Brazoria County—		
Hamm et al's Bryan Estate 1, Damon Homestead	40	1504
Liberty County—		
The Texas Company's Fee 1, 2000 ft NW Ott No. 1	*	1553

DRILLING REPORT

BRAZORIA COUNTY—Bryan Prod. Co.'s & Hamm et al's Bryan No. 1, at Freeport, J. G. McNee sur, core showing gas and oil, td 3135 ft. Z. Gayle's Gayle & Dunsmoor 1, 6 miles S Angleton, W. J. Russel sur, 500 ft to W line, rigging up. Hamm et al's Bryan Estate 1, Damon Homestead, T. H. Bryan Estate, completed at 1504 ft for 40 bbls.

BRAZOS COUNTY—Bryan Pet. Co.'s Watthuber 1, 2 miles S College Station, C. Burnett sur, dr below 2600 ft.

FORT BEND COUNTY—Gulf Prod. Co.'s Moore 2, Burknap sur, 1050 ft N No. 1, dr below 400 ft. Neilan Oil Co.'s B. Frederick 1, 4½ miles W Rosenberg, sec 19, S. George sur, NW cor, reported sd at 850 ft. Pathfinder Oil Co.'s well No. 6, sec 101, lcn not checked. Jas. W. Rich et al's Moore-Hager 2, at Big Creek, 300 ft NE No. 1, SE side of dome, rig.

GALVESTON COUNTY—Gulf Prod. Co.'s Geo. E. Smith 1, at High Island, rigging up.

HARDIN COUNTY—Kirby Pet. Co., Munson & Anderson et al's Hodges 3, near Batson, Hodges 202 acre lease, td 3135 ft, bailing.

HARRIS COUNTY — Dome Dev. & Pet. Co.'s Schneider 1, Schneider farm, John D. Taylor sur, blk 41, td 850 ft, temp. abn.

JACKSON COUNTY—Vanderbilt Pet. Co.'s Seliner 1, 4 miles N Vanderbilt, C. W. Hall subdivision of Harwood-Burns Ranch, sd at 2720 ft.

JEFFERSON COUNTY—Houston Oil Co.'s Gulf-Pipkin 1, Pipkin & Davis sur, sdtr at 2857 ft, td below 3007 ft; Sun-Pipkin 1, Pipkin & Davis sur, dr below 3316 ft. Paggi Bros.' Miller 1, N. F. Lazerine league, 300 ft W Public road, 1000 ft N of S line of league, dr below 2400 ft; Miller 2, ¾ mile SW No. 1, Wilson Hardware Company tract, lcn not checked.

LIBERTY COUNTY—The Texas Co.'s Fee

1, 2000 ft Ott 1, abn at 1553 ft in gumbo; Fee 2, ¼ mile S Fee 1, lcn not checked.

MATAGORDA COUNTY—Crossland et al's Hawkins 4, offset to Marland's Murphy 1, Hawkins Estate, 1000 ft SE No. 3, rigging up. Marland Oil Co.'s Murphy 1, Jeremiah Dwyer sur, dr below 4020 ft. Rycade Oil Corp.'s Gray 1, offset to Sisk 1, 150 ft N of N line of Texas Co.'s 20 acre lease, 150 ft W of E line of blk 2, milling out 6 inch cas at 3250 ft; Gray 2, 600 ft N of S line and 1400 ft W of E line of blk 2, dr below 426 ft.

MILAM COUNTY—Sinclair Oil & Gas Co.'s Smith 1, 12 miles SE Cameron, on Smith-Turney structure, 7000 acre blk, 300 ft N and 300 ft W of NW cor R. N. Turney 162 acre lease, land of H. F. Smith, Jr., dr below 3396 ft.

WHARTON COUNTY — Gulf Prod. Co.'s Cloud 2, 1400 ft E No. 1, rigging up; Felder 3, 20 ft to W and 1735 ft to N line of blk 3, S. Ingram sur, dr below 1000 ft.

Central West Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Brown County—		
F. W. Stone & Co. Gunn 2,.....	5	1218
Callahan County—		
Pope-Wilson & Pennant Oil & Gas Co. W. B. Bryson 4.....	*	2533
Mitchell County—		
The California Co. W. H. Abrams (T&P) 7	30	3030
Palo Pinto County—		
Dittman et al Bigler 1	¶2	3684
B. H. Talbert et al Slimp 1.....	*	1105
Reagan County—		
Texon Oil & Land Co. University 2 (Sec. 36, Blk 9) 3100		2988

DRILLING REPORT

BROWN COUNTY—M. T. Anderson-Moore et al's Wheeler 1, sd for shot 2790 ft. Calvert Bros. et al's Prater 1, rigging up. Canyon Oil & Gas Co. et al's Ellsberry 1, dr 600 ft. Davis & Swartz's Newton 2, spudding. Gillman et al's Newton 6, spudding; Newton 7, spudding. Honea et al's E. DeBusk 2, sd 2300 ft. Mahlstedt-Mook Oil Co.'s Newton 3, rigging up. Moore & Wilson's Williams 1, sd making half million feet gas 1215 ft. McMurray et al's Newton 2, machine. New Era Oil Co.'s Prather 3, dr 830 ft. Omaha Southern Oil Co.'s G. B. Gaines 2, sd 1840 ft. T. B. Slick et al's Chambers 1, dr 2820 ft. D. B. Thomas et al's Bohara 1, sd 2410 ft. Ward Oil Co.'s Windham 1, sd 1190 ft. Williams et al's H. A. Newton 1, spudded and sd.

CALLAHAN COUNTY—Byron-Union Oil Co.'s Hennessey 1, dd, sd 4405 ft. Chas. Dutton et al's Cathey 5, dr 515 ft; Cathey 7, rig; Harwell 1, sd 800 ft. Hickey et al's E. L. Findley 2-A, rig. Junior Oil Co.'s A. L. Huntington 1, sd 2280 ft. Kellogg Drilling Co.'s Snyder 1, sd 2530 ft. A. G. McMath et al's Isenhower 1, spudded and. O'Donnell et al's Cathey 1, dr 775 ft. L. D. Prewitt et al's W. W. Crane 1, sd 1565 ft; Geo. T. Crane 1, sd 1800 ft; Crane 2, dr 910 ft; Jones 1, machine. Seaboard Oil & Gas Co.'s Isenhower 2-A, sd for casing 1050 ft.

JOHNSON COUNTY — Culberson-Wyley & Dunlap's A. B. Pullen 1, sd 1505 ft.

COLEMAN COUNTY—Bailey et al's Kelly-Grady 1, (Wharton County School Lands) spudding. Roth & Farouth's Overall 9, dr 510 ft.

PALO PINTO COUNTY — Ed. S. Britton & E. B. Ritchie et al's Strawn Coal Co. Fee 3, dr 2050 ft. Cameron & Anderson's W. O. Pollard 2, dr 500 ft. J. D. Cranford et al's L. Smith 1, testing 650 ft. Hall et al's Chenault 1, sd 715 ft. Hughes et al's Belding 1, dr 3535 ft; Weldon 2, dr 3440 ft. Little Caddo Synd.'s Massie 2, dr 330 ft. Moore & Sneboldt's Stuart et al 1, dr 650 ft. McKinney et al's Marsden 1, sd 465 ft. S. W. Manning et al's R. Hitson 1, sd 3675 ft. Phillips et al's Stringer 1, sd 1255 ft. Phillips & Graham's J. A. Caudill 1, co after shot 3800 ft. Pender Production Co.'s Slemmons 2, dr 3460 ft. Wickens et al's Williams 1, dr 1905 ft.

PARKER COUNTY — G. E. LaBeaume's

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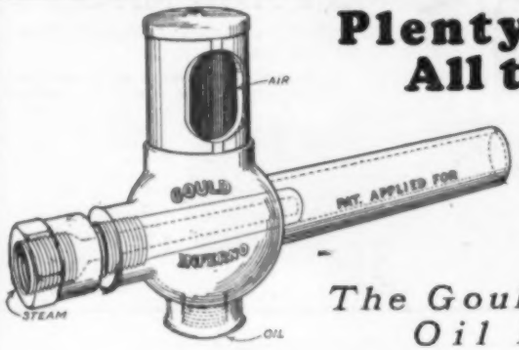

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SOMERVELL COUNTY — Glenrose Oil & Ref. Co. et al's J. R. Buzan 1, (4½ miles SW of Glenrose) sd 4000 ft.

GLASSCOCK COUNTY — Gulf Production Co.'s L. S. McDowell 1-C, co 2625 ft. Cushing Ranch Drilling Assn.'s W. H. Sparkman 1, sd 1950 ft. Ledger Co.'s C. I. Brunson 1, sd 3520 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, preparing to pump 2443 ft. Mitchell-McDonald & Jewell's Clyde Connell 1, sd for cas 750 ft.

IRION COUNTY—Orient Oil Co.'s J. D. Sugg 1, (Sec. 27, Blk. 2 H&TC sur) sd 1090 ft. Virginia-Texas Pet. Co.'s Tom Green County School Land 1, dr 365 ft.

MITCHELL COUNTY—The California Co.'s Clark 1, dr 2860 ft; H. C. Miller 5, dr 2870 ft. M. E. Eddleman et al's A. C. Gist 1, dr by tools 2880 ft. Sloan Oil Co.'s H. C. Miller 3, dr 1055 ft. Chal. Daniel et al's W. D. Kynard 1, rig I. B. Humphreys et al's P. C. Coleman 1, co 3200 ft. Morrison-Rowe Lease Synd.'s W. D. Kynard 1, co 3045 ft. J. T. Harris et al's W. C. Brown 1, sd 370 ft; Brown 2, sd 205 ft.

PECOS COUNTY—Plymouth Oil Co.'s (W. E. Houston Trustee) Perry Ranch 1, spudding. Arkansas Fuel Oil Co.'s Blacktone & Slaughter 1, dr 740 ft. Transcontinental Oil Co.'s Sherbino 1, dr 1010 ft. Trans-Pecos Oil Co.'s H. L. Thomas 1, sd 1830 ft; W. W. Turney 1, sd 2900 ft; Bennett 1, sd 1240 ft; Troy-Johnson 1, sd 2965 ft. Southern States Lease & Prod. Co.'s J. M. Odem 1, 1205 ft.

REAGAN COUNTY — Arkansas Fuel Oil Co.'s University 1, (Sec. 9, Blk. 6) fsh cas 3355 ft. Big Lake Oil Co.'s University 3, dd, testing cas 3090 ft; University 14, (Sec. 1, Blk. 2) testing 6⅝ cas 2865 ft; University 15, (Sec. 12, Blk. 2) bldg standard rig, td 2824 ft. Brandon-McCamey et al's University 1, (Sec. 27, Blk. 2) dr 1250 ft. B. H. Cogdell et al's University 1, (Sec. 23, Blk. 8) sd repair boiler 320 ft. Crockett Drilling Synd. et al's University 1, (Sec. 9, Blk. 9) dr 3100 ft. The California Co.'s University 1, (Sec. 13, Blk. 8) dr 2100 ft. H. S. Grayson et al's University 1, (Sec. 28, Blk. 8) dr 500 ft. J. K. Hughes et al's University 1, (Sec. 5, Blk. 9) spudding with rotary. P. H. Hoffman et al's University 1, (23, Blk. 11) dr 330 ft. Mid-Kansas & Transcontinental's Hughes-Mason 1, (Sec. 1225, E. L. & RR sur) dr 1900 ft. Simms Oil Co.'s Sawyer Cattle Co. 1, (Sec. 12, S. A. Glass sur) rigging up. J. T. Stover et al's University 1, (Sec. 34, Blk. 11) spd and sd. Texon Oil & Land Co.'s University 1, Group 2 (Sec. 22, Blk. 9) dr 4055 ft; University 3, Group 1, (Sec. 36, Blk. 9) dr 2590 ft; University 4, Group 1, (Sec. 1, Blk. 8) rigging up. Transcontinental Oil Co.'s University 1, (Sec. 10, Blk. 1) sd 3205 ft. University Oil Co.'s University 1, (Sec. 17, Blk. 10) dr 2350 ft. C. J. Wrightsman et al's Ingham 1, (Sec. 39, Blk. "C", L. & S. V. Ry sur) preparing to resume drilling, td 305 ft.

UPTON COUNTY — Big Mesa Oil Co.'s University 1, (Sec. 17, Blk. 3) lcn. W. P. Morris et al's H. M. Halff 1, spd and sd. Bell & Regan et al's University 1, (Sec. 2, Blk. 4) sd for cas 315 ft. Suggs & Chancellor's University 1, (Sec. 8, Blk. 4) spd and sd. Virginia-Texas Pet. Co.'s University 1, (Sec. 14, Blk. 15) dr 2160 ft.

Texas Panhandle Wildcats

CARSON COUNTY — American Ref. Co.'s Burnett 3, dr 2510 ft. J. Crosbie et al's Burnett 1, dr 2600 ft. Culberson Bros. et al's V. B. Armstrong 1, dr 3180 ft. Danciger Oil & Ref. Co.'s Burnett 1, sd 3130 ft. Gates Oil Co.'s Burnett 1, running cas 3010 ft. Gulf Prod. Co.'s Burnett 5, set cas 1140 ft; Burnett 6, rigged up; Burnett 7, material on ground; Burnett 1-A, dr 3090 ft. Marland Oil Co.'s Burnett 1, dr 2610 ft. Olson Bros. et al's Burnett 1, dr by bit, td 2500 ft. Premier Oil Corp.'s Burnett 1, sd 1300 ft. W. W. Silk et al's Burnett 3, second hole, dr 2375 ft. Skelly Oil Co.'s Burnett 2, ur cas 2000 ft.

The Texas Co.'s Burnett 5, dr 475 ft; Mary C. Burnett 2, dr 2275 ft.

COTTLE COUNTY—T. J. Woodley et al's A. Dulaney 1, dr 2700 ft.

GRAY COUNTY—A. R. Anderson's C. W. Bradford 1, sd 500 ft. C. H. Clark et al's Coombs & Worley 1, fsh 2345 ft. Danciger Oil & Ref. Co.'s J. B. Bowers 1, dk. Frank Dillard's John Henry 1, dr 2850 ft. W. H. Holmes' J. S. Morse 2, fsh 2400 ft. Wilcox Oil & Gas Co.'s J. H. Wilson 1, sd 3520 ft.

HUTCHINSON COUNTY — Amarillo Oil Co.'s L. Bivens 2-B, dr 2660 ft. R. G. Barnum et al's Johnson 1, co 2860 ft. Dixon Creek Oil Co.'s H. C. Smith 1, ur cas 2100 ft. Douglass Oil Co.'s J. A. Wittenberg 1, dr 2404 ft. Gulf Prod. Co.'s E. Cockrell 1, sd 3500 ft. New Domain Oil Co.'s W. S. Christian 1, dk. Prairie Oil & Gas Co.'s Diana Shaw 1, dr 2510 ft. Twin Six Oil Co.'s W. L. Kinland 1, dr 3000 ft. Western Enterprise Oil & Gas Co.'s Smith Capers 1, fsh 3050 ft. J. W. Wilson et al's Whittenberg 1, fsh tools, 2910 ft.

KING COUNTY — W. G. Tammell et al's Spikes 1, rigged up.

MOORE COUNTY — Amarillo Oil Co.'s Masterson 1, second hole, dr 1100 ft.

POTTER COUNTY—Amarillo Oil Co.'s L. Bivens 3-A, dk; W. H. Bush 1, dr 3225 ft; J. C. Warrick 1, dk burned, td 2200 ft, 5 million ft gas.

ROBERTS COUNTY — Phil Engle et al's Mrs. Ledrick & Sons 1, sd 1730 ft.

WHEELER COUNTY — Mid-Continent Oil Synd.'s Ember 1, sd 500 ft. W. D. Shedden et al's B. F. Westmoreland 1, sd 480 ft. Union Petroleum & Supply Co.'s O. T. Nicholson 1, sd 1500 ft. J. Whittington's Williams & Laycock 2, dr 2100 ft.

North Texas Wildcats

Company, Well and Location		Initial Production Bbls.	Depth
COMPLETIONS			
Baylor County—			
Crittenden et al Hawkins 1	.....	*	2035
Nelson et al J. Sykora 1	.....	*	1670
Throckmorton County—			
Bruce Larkin et al's R. E. Conger 1		10	1430

DRILLING REPORT

BAYLOR COUNTY—Batchelder & King's E. S. Wallace 1, dr 600 ft. Dallas Oil Co.'s Shawver Bros. 1, dr 1885 ft. Lehman et al's Shawver Bros. 1, sd 935 ft. Magnolia Pet. Co.'s W. H. Portwood 2, dr 1255 ft. D. H. Moore et al's H. H. Fancer 1, sd 980 ft, estimated 2 million ft gas. Richardson Bros. et al's Wallace Estate 1, sd 220 ft. Texhoma Oil & Ref. Co.'s W. H. Portwood 1, dk.

CLAY COUNTY—Atlantic City Prod. Co.'s Scaling 1, sd 2890 ft. J. T. Cumley's N. C. Camp 1, sd 1802 ft. L. R. Dixon et al's R. H. Godfrey 2, spudded. E. C. D'Yarmitt's Scott 2, dr 800 ft. Knox Finley Dev. Co.'s Scott 4, dr 1000 ft. Lone Star Gas Co.'s Lockridge 2, sd 1525 ft. Morris & D'Yarmitt's J. Stephenson 1, sd 1260 ft. J. O'Neil's O. A. Ross 1, dr 2100 ft. Piedmont Oil Co.'s Dean 1, sd 1210 ft. Shelton Oil Co.'s H. Boddy 1, sd 1370 ft. Somers & Nantz's Mary C. Parker 1, sd 1000 ft.

COOKE COUNTY—Big Indian Oil Co.'s W. B. Davis 1, sd 3525 ft.

DENTON COUNTY — Arbuckle Asphalt & Pet. Co.'s K. Fonteberry 1, sd 500 ft.

GARZA COUNTY—B. V. Blackwell et al's J. M. Boren 1, preparing to pump 2450 ft. Union Pet. Corp.'s C. C. Connell 1, sd 750 ft.

GRAYSON COUNTY—W. R. Shankle et al's J. Marshall 1, second hole, sd 1100 ft.

KNOX COUNTY—Brazos Bend Oil Co.'s J. E. Clark 1, sd 2020 ft. Evans et al's Ella Lawson 1, sd 765 ft.

MONTAGUE COUNTY—Guaranty Fund Oil Co.'s E. A. Jordan 1, fsh 3460 ft. Gulf Production Co.'s M. E. Benton 1, (rotary) dr 3300 ft. Petroleum Producers Co.'s C. H. Howard 1, fsh 1050 ft. P. F. Lesh's Mrs. M. H. Salmon 1, testing 940 ft. Owenwood Oil Corp.'s Mrs. M. H. Salmon 1, dr 100 ft. The Texas Co.'s I. A. Gist A-3, dr 50 ft; M. H. Salmon 1, dr 100 ft. Texhoma Oil & Ref.

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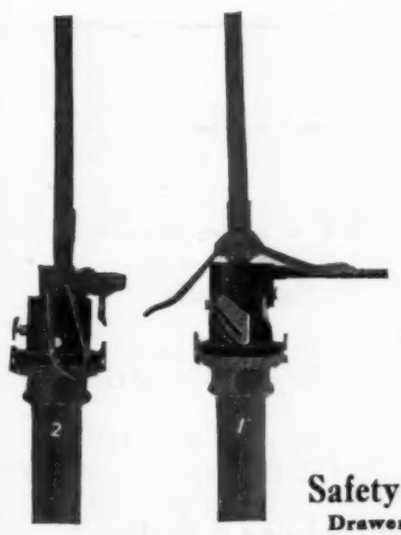

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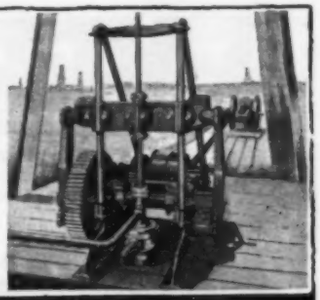

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4,000	"	12½"	50 "	"	"
1,000	"	15½"	70 "	"	"
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Co.'s O. Cato 1, sd 2500 ft· J. W. Maddox 1, lcn.

THROCKMORTON COUNTY—Clark et al's J. L. McCarson 1, dr 1475 ft. Cragin et al's J. R. Burkhalter 1, sd 50 ft. Groves & Burton's Reynolds Cattle Co. 1, sd 672 ft. Hamilton et al's J. T. Odell 1, dr 2425 ft. C. F. Kelsey's W. D. Housley 1, sd 50 ft. King et al's A. P. Broyles 1, sd 900 ft. Bruce Larkin et al's Mrs. T. S. Richards 1, sd 790 ft, estimated 1 million ft gas. McGee et al's J. T. Davis 1, dr 1050 ft; J. J. Keeter 1, rigging up; Lila D. Martin 1, dk. McNeil et al's Travis County School Land 1, rigged up. McKnight et al's A. H. Haley 1, dr 440 ft. Schimmell et al's H. W. Kelley 1, sd 100 ft. Skinner et al's Mrs. M. A. Mitchell 1, dk. The Texas Co.'s A. L. Smythe 1, dr 670 ft. W. A. Whatley et al's Parrott 1, sd 800 ft.

WILBARGER COUNTY — Allday et al's Bourland 1, dk. American Ref. Co.'s W. T. Waggoner 1, dk. Barker & Hamilton's A. P. Morris 1, sd 305 ft. Barkley & Meadows' W. H. Stephens 1, dr 1400 ft. Bridwell, Heydrick & O'Donohoe's S. A. Dill 2, dr 2015 ft. Bridwell & Heydrick's W. H. Stephens 3, testing 2050 ft; Stephens 4, flowed approximately 1000 bbls, td 2040 ft; Stephens 5, dr 1900 ft. Bridwell, Heydrick & T. P. Coal Co.'s W. T. Waggoner 1, dr 1300 ft. Burton & Ruff's W. T. Waggoner 1, dr 250 ft. Dill Farm Oil Co.'s W. B. Dill 1, ur cas 2300 ft. Dumas & Ellis' W. H. Stephens 1, sd 1360 ft. Electra Gulf Oil Co.'s M. Ditto 1, dr 890 ft. B. Harrell et al's W. T. Waggoner 1, rigged up. Hart et al's Smith 1, dr 2125 ft. Humble Oil & Ref. Co.'s R. L. Castlebury 1, dr 1640 ft; W. T. Waggoner 1, dr 200 ft. J. B. Levy et al's D. Wheeler 1, dr 1200 ft; W. T. Waggoner 1, spudded. Little Oil Co.'s J. T. Youngblood 1, dr 1100 ft. McCamey et al's G. W. Richardson 1, sd 2060 ft; Ed Mulligan et al's W. T. Waggoner 1, dr 890 ft. Murchinson & Pigg's Davis 1, rigging cable tools, td 1025 ft. Mutual Oil Co.'s C. Zipperle 1, rigged up. Noble Oil Co.'s W. T. Waggoner 1, dr 2030 ft. Oxford Oil Co.'s W. T. Waggoner 1, rigging up. Prince Bros.' C. Zipperle 1, sd 2060 ft. Ray & Massey's D. Bond et al 2, dr 1900 ft; Bond et al 3, dr 1950 ft; Bond et al 4, rigged up. W. J. Sheldon et al's W. J. Sheldon 1, fsh 1810 ft. F. S. Skinner's Fred Streit 1, dr 900 ft. South Vernon Oil Co.'s W. H. Stephens 4, dr sand 2050 ft; W. H. Stephens 5, dr sand 2020 ft; Stephens 6, dr 1500 ft; Stephens 7, dr 1600 ft; Stephens 8, dr 1900 ft; Stephens 9, dr 500 ft. Staley & Wynne's W. T. Waggoner 1, dr 1840 ft; W. H. Stephens 1, dr 200 ft. Texas Oklahoma Oil & Ref. Co.'s J. Bowers 1, dr 1800 ft. The Texas Co.'s R. L. Castlebury 1, lease B, dr 175 ft. R. M.-Waggoner & Winnipeg Oil Co.'s Bond et al 1, dr 1880 ft. Wells & Guiberson's W. T. Waggoner 2, dr 1875 ft. Winnipeg Oil Co.'s Bond et al 3, swabbing, td 2040 ft; Bond et al 4, dr 600 ft. G. C. Wood et al's A. Streit 1, dk; Lou Boger 1, dk.

San Antonio District Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Jim Hogg County		
O. W. Killam's No. 1	600	....

DRILLING REPORT

ATASCOSA COUNTY—DeLange-Eiser Co.'s Tom 2, dr below 3340 ft.

BEXAR COUNTY—Aviators' Swearingen 1, dk. J. M. Davis et al's Koch 1, preparing to spud in. F. B. Slick's No. 1, dr. White & Hampton's Swearingen 1, sd.

DUVAL COUNTY—Co-operative Drilling Co.'s Dinn 1, sd 2070 ft. Mesquite Oil Co.'s No. 1, setting liner at 2162 ft. Hill-Pierce Corp.'s Martinez 1, dr. Cole Pet. Co.'s No. 6, dr below 2400 ft; 7, lcn.

GUADALUPE COUNTY—J. K. Hughes Dev. Co.'s Allen 20, no report. United North & South Oil Co.'s Glenwinkle 1, dr; Baker 22, no report. Allen Burman's Wade Battle 1, dr 1980 ft. Magnolia Oil Co.'s No. 13, dr 1660 ft; 14, dr 2040 ft. Sight et al's Springs 1, sd 1400 ft. Ross & Green's Pryor 1, dr below 1700 ft.

Jennings et al's Lynch 1, sd 2250 ft. Walhunda Pet. Co.'s Smith 1, sd 2075 ft.

JIM HOGG COUNTY—Simms Oil Co.'s Wood 1, sur 84, dr below 1600 ft. Texo Oil Co.'s No. 1, sur 256, rigging up. Henne-Winch-Farris' Martinez 5, set casing at 1900 ft; 6, dr 1500 ft. Alworth Bros.'s No. 1, blk 38, sur 15, spudded in. Laurel Oil Co.'s Palacious 2, sd 1833 ft. Buchanan-Plateau Oil & Gas Co.'s No. 7, sur 256, coring below 1900 ft; No. 15, sur 26, dr below 1200 ft. Bailey et al's Martinez 1, blk 7, sur 256, sd. J. W. Pippen et al's No. 1, sur 51, dr below 1800 ft. Magnolia Oil Co.'s Thompson 1, dr 1960 ft. Weber Oil Co.'s Holbein 4, sd 2774 ft. Lang et al's No. 1, dr below 600 ft. Shasta Oil Co.'s Holbein 1, sd 500 ft. O. W. Killam's No. 1, sur 16, blk 255, producing 600 bbls; Martinez 1, dk. Witherspoon Oil Co.'s Holbein 1, casing set at 2023 ft; 2, coring below 1900 ft.

LIVE OAK COUNTY—Grubstake Investment Assn.'s Nichols 3, set casing. Glasco & Fallin's Tip 1, sd 600 ft. Southern Natural Gas Co.'s No. 9, dr; 10, lcn. Coquet et al's Hicks 1, dr.

ZAPATA COUNTY—H. J. McMullen's Serapio Vela 1, 2, 3, lcns. R. K. Bakeman et al's No. 1, sur 617, dr 1200 ft. Mirando Oil Co.'s No. 16, sur 307, sd 2020 ft. Killam Interests' No. 1, sur 307, set casing at 1664 ft. Hill et al's Haynes 1, dr. Panuco Prod. Co.'s Vela 1, dr below 400 ft.

Louisiana Wildcats

BIENVILLE PARISH—Roxana Pet. Co.'s Bryan 1, 30-17-6, dr 1100 ft.

BOSSIER PARISH—Armistead et al's Bernstein 1, 11-20-13, sd 1180 ft. Atlantic Oil Prod. Co.'s Bodcau 2, 24-23-12, dr 1050 ft. Coker et al's Rhodes 1, 31-21-11, dk. Skannal et al's Roscoe 1, 14-17-12, tested 6-inch dry 1897 ft. Standard Drlg. Synd.'s Johnson 1, 18-18-11, sd 1115 ft.

CADDO PARISH—Ark-Caddo Oil Co.'s Nickerson 1, 30-19-15, sd 2450 ft. Brewer et al's Sharp 1, 10-18-16, rig. Crude Oil Co.'s Alexander-Ledbetter 1, 27-16-14, sd 3666 ft. Lewis Oil Corp.'s C. M. L. 5, 24-23-15, set 6-inch 1037 ft. Richardson Oil Co.'s Bickham 1, 15-18-15, sd 2000 ft. Stith et al's Pitts 1, 11-23-16, dr 500 ft.

CALDWELL PARISH—Culver et al's Culver 1, 21-14-4e, sd 3130 ft.

CLAIBORNE PARISH—Claiborne-Lincoln Synd.'s Fields 3, 22-19-5, dr 1520 ft. Collins & Woodley's Fortson 1, 28-21-5, coring 2845 ft. El Dorado Chief Oil Co.'s McElwee 1, 13-22-7, fsh 2163 ft. Evans et al's Taylor 1, 5-19-5, dr 855 ft.

DE SOTO PARISH—Daniels & Roscoe's Pollack 1, 36-11-24, dr 2790 ft. Tarver et al's Conley 1, 2-14-10, dk; Palmer 3, 3-11-14, gas at 2685 ft; dr 2725 ft. Ulrey et al's Deas 1, 23-11-12, lcn; Patterson-Robinson 1, 22-11-12, lost hole at 420 ft; skidded derrick. Wright et al's Sutherland 2, 19-12-14, sd 2614 ft.

GRANT PARISH—Grant Parish Pet. Co.'s Ball 2, 1-7-1w, rig sd.

LA SALLE PARISH—Bur-Ban Oil Co.'s Urania 2, 21-11-2e, gas blow-out, 2090 ft. Columbia O. & G. Co.'s Urania Lumber 1, 22-10-2e, sd 200 ft. Gulf Refg. Co.'s Urania 1, 22-11-2e, dk; Urania A-1, 22-11-2e, sd 1022 ft. Stovall Drlg. Co.'s Louisiana-Central Lumber 2, 27-10-2e, sd 2000 ft. Urania Pet. Co.'s Urania 4, 20-10-2e, sd 1573 ft.

LINCOLN PARISH—Buckner et al's Barrett 1, 13-20-3w, set 8-inch 1050 ft,

NATCHITOCHES PARISH—R. O. Roy & Co.'s Durr 1, 27-10-10, set 10-inch 208 ft.

OUACHITA PARISH—Dickson & Frue's Goodwin 1, 24-18-2e, set 8-inch 2070 ft.

SABINE PARISH—Emlet et al's Bowman-Hicks Lumber 4, 8-7-12, dr 160 ft; Bowman-Hicks 5, 9-7-12, dk.

UNION PARISH—Jones & Walker's Feazel 1, 6-19-2e, dr 1800 ft. Roxana Pet. Co.'s Voss 1, 18-22-2w, lcn. Simms Oil Co.'s James 1, 16-22-3w, rig.

WEBSTER PARISH—Arkansas Nat'l Gas Co.'s Frazier 1, 27-23-11, dr 1350 ft: Belchic & Laskey's P. W. Lumber 6, 33-23-11, set 8-inch 1210 ft. Bethany O. & G. Co.'s Wiley 2, 6-22-9, set 8-inch 1180 ft. Butler & McMurray's

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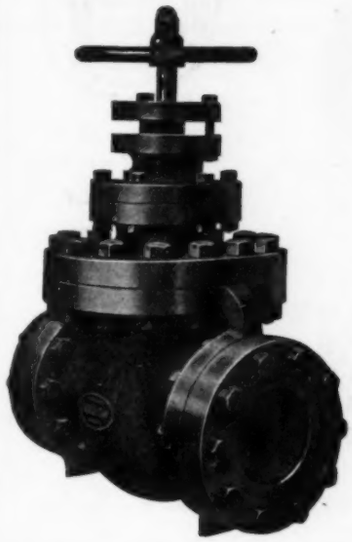

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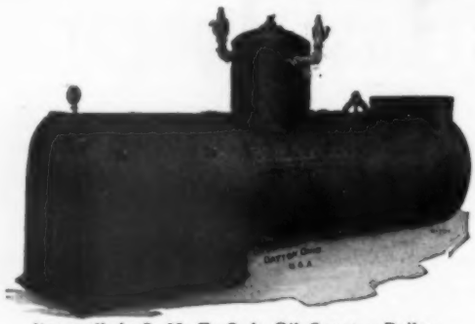

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Allen 1, 35-23-11, set 6-inch 2654 ft. Fortuna Oil Co.'s Nickerson 1, 23-23-10, rig; P. W. Lumber 1, 27-23-10, dk. Kinnedy et al's Ambrose 1, 19-20-10, dk. Haenlen et al's Roberts 1, 9-23-10, set 6-inch 2550 ft. McDowell et al's Hortman 1, 15-20-10, sd 2235 ft. Louisiana Oil Refg. Corp.'s Armor 1, 21-23-9, dk. Palmer Corp.'s Miller 1, 29-21-10, fsh 3460 ft. S. S. Raymond's Coyle 1, 28-21-10, dr 3470 ft. The Texas Co.'s Tinsley 1, 35-23-10, set 8-inch 1170 ft. J. K. Wadley's Porter-Wadley Lumber 1, 31-23-9, set 12½-inch 160 ft.

WINN PARISH—Galloway & Arrendale's McCarty 1, 5-12-1w, dr 920 ft.

Arkansas Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Nevada County—		
Prescott Oil Co.'s Henry 3, 10-12-20	*	1000

DRILLING REPORT

CLARK COUNTY—Southern Drlg. Co.'s Burrows 1, 35-10-20, sd 714 ft.

COLUMBIA COUNTY—Ark Fuel Co.'s Hardy 1, 1-19-22, lcn. Hargis et al's Souter 1, 24-17-22, sd 35 ft. Heath Trust's Williams 1, 1-19-21, set 6⅝-inch 2112 ft. Johnson et al's Sailles 1, 18-17-22, sd 915 ft. Kemp et al's Emerson 1, 7-19-19, sd 2260 ft. Ky-Ark Pet. Co.'s Doss 1, 29-19-20, dk. Magnolia Development Co.'s Lindsey 1, 30-18-19, dk. Meier et al's Gantt 1, 15-17-22, dk. Moore et al's Fullenwilder 1, 12-17-22, tested 6-inch dry 2165 ft. Phillips et al's Davis 1, 15-18-21, sd 2245 ft.

DALLAS COUNTY—Durr et al's Riggs-Matlock 1, 33-8-15, sd 2400 ft.

DREW COUNTY—Graves et al's Karnes 1, 20-14-6, sd 2385 ft. King & Wilson's Trotter 1, 12-13-6, sd 1250 ft. Rhodes et al's Harris 1, 5-13-8, sd 2305 ft. Spooner et al's Meyer 1, 4-16-17, sd 50 ft.

GRANT COUNTY—Arnold & Hill's Meeks 1, 8-4-11, dk. Haley & Evans's Pike 1, 8-6-11, sd 50 ft.

HEMPSTEAD COUNTY—Hempstead Oil Co.'s Nicholls 1, 17-11-25, sd for cas 1980 ft. Wooten et al's Walker 1, 22-11-24, dk.

LA FAYETTE COUNTY—Ken-Saw Pet. Co.'s Red River Valley Lumber 2, 3-20-24, rig.

LINCOLN COUNTY—Bennett et al's Jones 1, 33-10-6, dk. Cambrian et al's Fee 1, 3-9-8, sd 1850 ft.

LITTLE RIVER COUNTY—Gaines et al's Thomas 1, 16-13-29, dr 3785 ft. Grote et al's Allen 1, 2-13-29, sd 3000 ft. Johnson et al's Hawkins 1, 10-11-31, sd 1350 ft to resume.

MILLER COUNTY—Norton et al's Thomas 1, 12-20-28, lcn.

NEVADA COUNTY—Ouachita Valley Oil Co.'s Phillips 1, 30-14-20, dr 1800 ft. Southern Oil Co.'s (Keystone) Moss 1, 7-14-20, sd 25 ft. Zingg et al's Groves 1, 22-10-23, sd 1055 ft.

OUACHITA COUNTY—British Allied Synd.'s Larkin 1, 6-13-18, rig. Bray & Hawthorne's Copenhagen 1, 13-14-17, sw 2567 ft; plugged back to 2530 ft; sd. Dee et al's Criner 1, 21-15-19, dk. Morgan & Gaughan's Morgan 2, 3-15-19, dr 440 ft. Reynolds & Thompson's Graves 1, 16-14-18, dr 1860 ft.

UNION COUNTY—Berry et al's Union S. M. 1, 14-19-11, dr 1670 ft. O'Brien et al's Fee C-1, 13-19-17, lost hole at 1500 ft; skidded dk; set 12½-inch 170 ft.

Oklahoma Wildcats

ALFALFA COUNTY—McGuinnis & Ward's Watts 1, C NE SW 21-27 10w, sd 3240 ft. Armstrong, Henley & Piffles' Turnbull 1, C NW SE NW 25-24-11w, fsh 2450 ft.

ATOKA COUNTY — McPhearson et al's Wild 1, SWc NW 7-2-9, sd 4323 ft. Henson et al's Dabney 1, C SE NW 17-4-11, sd 2260 ft. J. P. Torrance et al's Fee 1, SWc NE 1-2-9, sd 2235 ft, hfw. Wapanuka Dev. Co.'s Underwood 1, C W L SE SE 28-2-9, sd 1343 ft.

BLAINE COUNTY—Meyers et al's Chronister 1, SEc NW NW NE 7-18-15w, sd 965 ft. Thompson's Dickerman 1, C SE SE SE 26-15-12w, sd 3213 ft. Okomo Oil Co.'s Ekleman 1, SWc 21-13-10w, sd 2610 ft.

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BRYAN COUNTY — Alexander's Hampton 1, SEc NE 26-7-11, sd 1400 ft.

CANADIAN COUNTY — Thos. Revelle's Dawson 1, SEc 34-13-9w, dr 2885 ft. Carroll et al's Setter 1, SEc 2-13-8w, sd 100 ft.

CLEVELAND COUNTY — Carr Oil Co.'s Holland 1, NEc SE 31-10-4, sd 2620 ft.

CUSTER COUNTY—Hoover Oil Co.'s No. 1, NWc SE 34-13-14w, fsh 2510 ft.

GRANT COUNTY—Embry et al's Edwards 1, C SE SE NW 20-26-4w, sd 1000 ft. Midwest & Gulf's Moon 1, NEc NW 8-27-8w, sd 2490 ft. Phillips Pet. Co.'s Ridings 1, NEc SE NW 29-29-4w, fsh 4667 ft. Frank Travis et al's Fuss 1, SWc NW NW 3-27-4w, dr 1200 ft.

GREER COUNTY—Neal et al's Johnson 1, SEc NE NW 3-7-22w, dr 1245 ft. Boss & Terrill's Van Victor 1, C SW SW 4-3-22w, dr 2415 ft.

HUGHES COUNTY — Mathers & Skelly's McClain 1, C SW SW 4-5-11, sd for water. Dixie Oil Co.'s Irvine 1, SW NW SE SE 18-8-10, dr 3040 ft.

JEFFERSON COUNTY—Connell Oil Co.'s Anderson 1, SEc NE 31-4-8w, dr 1585 ft. W. E. Norton's No. 1, SEc SE 7-5-9w, rotary rig. Barker et al's Major 1, C SE SW 34-5-6w, spd and sd. Godley Oil Co.'s Woodworth 1, C NE NW 36-5-4w, sd 495 ft. Magnolia Pet. Corp.'s Spring 1, C NE NW NE 25-6-6w, dr 1630 ft.

JOHNSON COUNTY — Washita O. & G. Co.'s Trootes 1, C SE SE 7-4-4, sd 2180 ft. United "8" Oil Co.'s Hodlen 1, NWc SW NW 36-5-6, sd 2330 ft.

KAY COUNTY—Day Oil Co.'s Vandatta 1, SWc NW 8-26-2w, dr 3345 ft.

KIOWA COUNTY—Connor et al's No. 2, NEc NW NW 34-7-16w, run 10-inch 976 ft. Aubyme Oil Co.'s No. 1, SWc NE 3-7-17w, run 6-inch to 2500 ft. Alcorn Oil Co.'s No. 1, NEc SE SE SW 13-7-16w, sd 1350 ft.

LINCOLN COUNTY — Sun Ray Oil Co.'s Gallagher 1, C N L SE SE 18-13-5, sd 3825 ft, hfw. P. & R. Corp.'s Hainzig 1, SWc NW SW 14-13-6, move in rotary, td 2135 ft. Douglas Oil Co.'s Ewing 1, NWc 7-13-3, sd 2965 ft. J. C. Cook's Richardson 1, SWc NW SW 8-12-5, fsh 2375 ft. Eugene Coste & Co.'s Ross-Fortune 1, SEc NW 26-12-2, dr 2600 ft. Wilcox O. & G. Co.'s Smith 1, SEc SW NE 12-12-3, sd 1300 ft.

LOGAN COUNTY—Buford-Brim Oil Co.'s Newman 1, NWc NW 32-19-3w, co 2318 ft. Oklahoma Drilling Co.'s Johnson 1, SEc SW 36-15-2w, sd 1716 ft. Franklin Oil Assn.'s Moore 1, NWc SE SE 35-17-4w, sd 2100 ft. McMunn & Nixon's Fields 1, SWc NE SE 35-17-4w, rig. Haley & Pioneer Pet. Co.'s Quair 1, SWc SE 33-18-3w, rig rebuilt. Pluto O. & G. Co.'s Lair 1, C S L N½ SE 28-16-1w, fsh 750 ft. Gilliland Oil Co.'s Ohm 1, C NW 5-19-2w, fsh 3050 ft. Magnolia Pet. Co.'s Pritchard 1, NWc 23-15-1s, r 2815 ft.

LOVE COUNTY — Driller Syndicate Oil Co.'s Wilson 1, NWc SE 11-7-2w, sd 2830 ft. Simms Oil Co.'s Starritt 1, SEc NE SE NE 26-6-3w, co 2332 ft.

MAJOR COUNTY—Texas Prod. Oil Co.'s Basin 1, SWc 6-22-14w, spd and sd. Bradstreet Oil Co.'s Ratcliffe 1, C SW 9-22-9w, sd 3055 ft. Frantz & Slick's Gray 1, C NW 36-21-11w, sd 1000 ft.

PONTOTOC COUNTY — Harper et al's Dener 1, NWc SE SE 19-6-7, sd 2835 ft. Smith et al's Norris 1, SWc SE 34-4-6, sd 2430 ft. Riverside Oil Co.'s McFarland 1, NWc NE NW 4-5-5, sd 650 ft. C. J. Wrightsman's Floyd 1, SWc NW NE 24-4-4, cas trouble 2720 ft. Galloway et al's Hays 1, NEc SE NW SW 13-3-6, sd 1160 ft. Craig et al's Starritt 1, NWc NE 5-4-5, sd 600 ft. Brinson et al's Brown 1, SEc NW SE 32-5-5, fsh 650 ft.

OKLAHOMA COUNTY—Firestone Oil Co.'s School 1, NWc SE 36-11-3, dr 4285 ft.

POTTAWATOMIE COUNTY — Ossie Oil Co.'s Howell 1, SWc NE 17-10-2, dr 3150 ft. Davis Detrick's McGathey 1, SEc 10-6-2, sd 3850 ft. H. C. Guinnup et al's Floyd 1, SWc SE 12-11-3, sd 3670 ft. North American Oil Co.'s Madgett 1, NWc 25-10-4, sd 460 ft. Maud Oil Products Co.'s Yinson 1, NEc SW 18-7-4, sd 100 ft. Day Oil Co.'s Bell 1, SEc NW NE 9-5-3, sd 3637 ft. Halmond Osmond et al's Fiddler 1, SEc NW 4-5-5, sd 545 ft.

ROGERS MILLS COUNTY—Twin Hills Oil Co.'s McClure 1, NWc 1[illegible]-16-26w, dr 4160 ft. Trio Oil Co.'s No. 1, SEc NW SW 3-13-26w, sd 3060 ft.

SEMINOLE COUNTY — Maxwell et al's

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WASHITA COUNTY—McCoy et al's Praeters 1, C SW SW NE 9-8-15w, sd 3115 ft.

WOODS COUNTY—Victor Oil Co.'s Van Buskirk 1, SWc SE 10-25-15w, sd 960 ft.

Kansas Wildcats

BARBER COUNTY—R. B. Brown's No. 1, NWc SW NE 33-30-14w, sd 3720 ft.

BARTON COUNTY — Cheyenne Oil Co.'s Sooy 1, SWc SW 27-18-12w, sd 3525 ft. Haynes et al's No. 1, NWc 31-12-12w, sd 2100 ft. Mountain States Oil & Gas Co.'s No. 1, SEc NE 22-18-13w, dr 3685 ft. Huffine et al's Smith 1, C SE SW 21-19-12w, dr 610 ft.

CLARK COUNTY—Watcham O. & G. Co.'s Morrison 1, SEc NE NE 2-22-21w, sd 4918 ft.

COFFEY COUNTY — Sunbeam Pet. Co.'s Andrew 1, NWc NE 30-20-15, rig. Manhattan Oil Co.'s Elliott 1, NWc SW 14-33-13, sd 350 ft. Braden Bros.' Beyer 1, SEc NW 13-22-13, spd and sd.

CLOUD COUNTY—Livingston et al's Murdock 1, NEc 7-6-4w, sd 365 ft.

GEARY COUNTY—Liberty-Texas Oil Co.'s Wright 1, NEc 9-12-6, sd 750 ft. Liberty-Texas Oil Co.'s Foster 1, NEc SW 3-12-6, sd 2000 ft.

GOVE COUNTY—Keyes Bros. & Marine's Unkown 1, NWc SW 23-13-26w, lcn.

GRAHAM COUNTY—Keyes Bros. & Marine's Taxton 1, SEc NW 23-8-24w, dr 1650 ft.

FINNEY COUNTY—Garden City O. & G. Co.'s Wann 1, SEc SE 36-21-30, sd 2890 ft.

JEFFERSON COUNTY — Northern Counties' Edwards 1, SEc NW NW 13-8-19, sd 3405 ft.

KINGMAN COUNTY—Hale et al's Graber 1, SWc NW 34-27-7, sd 2543 ft.

LINCOLN COUNTY—Berry & Rosenthal's Lambert 1, C NW 31-12-10w, dr 3190 ft. Amerada Pet. Corp.'s Crawford 1, NEc SW SE 16-11-7w, dr 2875 ft. Equity Oil Co.'s Jellison 1, NWc SE 19-13-9w, dr 2790 ft. Scott & Collins' Stone 1, SEc SW NE 19-11-6w, sd 500 ft.

NEMAHA COUNTY—Nemaha O. & G. Co.'s Meyers 1, NWc 19-3-11, sd 250 ft.

OSAGE COUNTY — Rodgers & Bittle's Bertha 1, SEc NW 22-17-16, lcn. Mul-Vit Dev. Co.'s Neil 1, NEc NW SW NE 8-17-17, sd 2735 ft. Baker et al's No. 1, C SE SE 3-10-14, sd 260 ft.

POTTAWATOMIE COUNTY — Crawford et al's Stewart 1, C E L SE SE SE 17-9-12, rig; Greishabert 1, SWc SE SE SW 13-9-18, rig; St. Mary 1, SWc 11-1-12, sd 2290 ft.

RICE COUNTY—Stamey et al's Barnes 1, SEc NE 21-20-6w, sd 3100 ft. Jasper & Beschka's Walker 1, SWc NE 10-18-6w, sd 1750 ft.

RILEY COUNTY—Pawnee Oil Co.'s Marks 1, SEc NE NW 26-10-6, sd 1700 ft.

ROOKS COUNTY—Keyes Pet. Co.'s Sandon 1, NWc SW SE 7-8-20w, spd and sd.

RUSSELL COUNTY — Pomeroy et al's Cooper 1, SEc 33-12-11w, dr 2250 ft. Alcorn Oil Co.'s Seller 1, SEc 36-15-12w, dr 3280 ft.

SEWARD COUNTY — C. T. Dev. Co.'s Woods 1, NWc NE 34-34-34, sd 700 ft. Seward O. & G. Co.'s Selsey 1, NEc NW 2-33-33, sd 2477 ft.

SALINE COUNTY—Thrall et al's No. 1, SEc NE NW 15-15-4w, sd 1010 ft.

TREGO COUNTY—Keyes Pet. Co.'s Walsh 1, NWc SE 5-11-25w, sd 1450 ft.; Walsh 2, SWc NE SW 5-11-25w, sd 1550 ft; Davis 1, NEc SW 16-11-24w, set cas 3030 ft.

WABAUNSEE COUNTY—Williams et al's No. 1, NEc SW 9-5-5, sd 3600 ft.

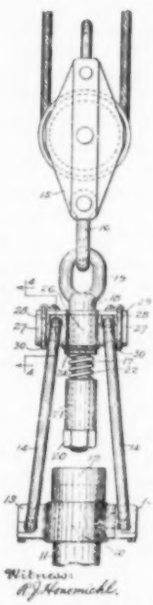
WOODSON COUNTY — Equity Oil Co.'s No. 1, Soloman, SWc NE NW 30-36-17, sd 3340 ft. Herman & Oghisby's Lauber 1, SWc 4-26-14, sd 850 ft. Skelly Oil Co.'s Rhea 1, C W L SE SW 13-24-15, spd.

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Handling of Heavy Casing Facilitated by Connector

To further simplify and facilitate the handling of casing about oil wells, Loran E. Nebergall, inventor of the spiral drill stem, has recently secured patents on a block and elevator connector.

The tops of the elevator links, instead of coming into contact with the hook, drop into separate grooves on each side of the connector after which a top plate is swiveled into a closed position and held in place by dropping the two rings.



Nebergall Block and Elevator Connector

A spring cushions the connector and the device swivels on ball bearings.

It is claimed for this device that it provides an extraordinarily secure method of attaching elevators to the block, that it enables the use of elevator with a straight link in which the strength of the material is fully utilized, and that is provides extreme flexibility besides facilitating the lifting of the casing from a horizontal to a vertical position.

Loran E. Nebergall, Denver, Colorado, will supply additional details upon request.

Catalog on Lubrication

"The Economy of Better Lubrication," is the title of a bulletin on lubrication put out by the McCord Radiator and Manufacturing Company, Detroit, Michigan.

In addition to the material on lubrication, McCord force feed lubricators are described in detail, with cuts and illustrations showing how the lubricators are installed on engines. These lubricators are well suited for heavy duty engines that are used in oil fields and about the refining plants, as well as those at pipe line stations.

The company will be glad to send the bulletin upon application for the same.

Sullivan Cleveland Office Moves into New Quarters

Cleveland, Ohio, Dec. 17.—Local offices of the Sullivan Machinery Company have been moved from 824 Rockefeller Building, to 701, in that building.

Ralph T. Stone, district manager, is in charge of the office.

Doreco Oil Burner Has Many Valuable Features

Demand for an oil burner which would render a maximum service, save oil, have a low depreciation and be easy on the boiler, has been the primary reason for the development of the Doreco oil burner being marketed by the Empire Companies, Bartlesville, Oklahoma.

The Doreco oil burner consists of essentially two parts, a boiler governor, which is placed on the boiler dome and the combustion unit, which is placed under the boiler. The purpose of the boiler governor is to control the rate of firing according to the steam pressure. The combustion unit turns the oil on and off as controlled by the boiler governor, the air and steam being turned off simultaneously with the oil. All parts are made oversize. The burner is manufactured so that nothing gets out of order and there is nothing to freeze in cold weather.

One of the principal features of the burner is its simplicity of operation. There are two rates of firing, one, a pilot flame, and the other the maximum fire. The fire is automatically turned off and on by the boiler governor. When the steam pressure drops below normal the fire is turned entirely on, and when the steam pressure is above normal the fire is turned down. The amount of time the full fire is on depends upon the load. The burner is so manufactured that any drilling crew can set it with only a few simple directions and can adjust it themselves for the best operation.

Outstanding points in favor of the Doreco burner relative to what it does and the savings by its use are: Time: It saves time by keeping the steam pressure at the right point without any attention from the tool dresser. By having plenty of steam not only is more hole made but hazards are greatly reduced. Fuel: It saves fuel by completely burning all oil that comes to it. This burner does not buck. When a burner bucks oil is wasted by not being burned. The automatic control prevents any waste of fuel caused by blowing off the safety valve. The damper which closes as the fire is turned off prevents waste of fuel by over ventilation. The net result is an exceeding small consumption of oil.

The Empire Companies, Bartlesville, Oklahoma, will supply other information upon request.

Duff Jacks for Oil Fields

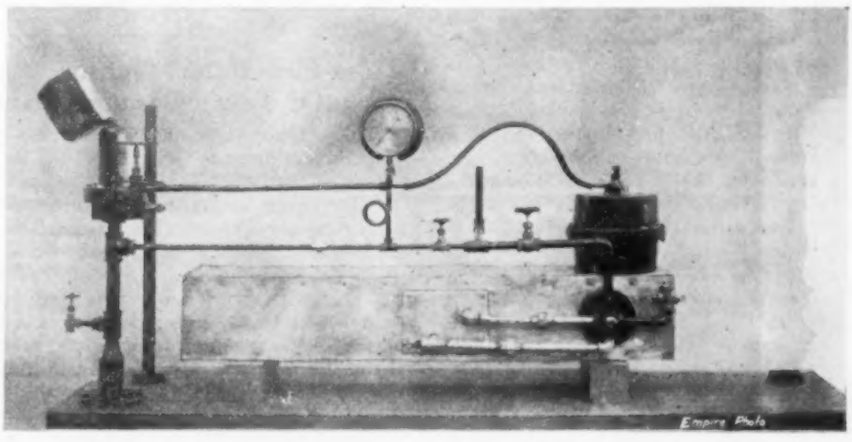
Jacks for duty in oil fields are featured in a catalog published by the Duff Manufacturing Company, Pittsburgh, Pennsylvania. These jacks are designed for wrenching and unwrenching oil well tools.

The rail or "rack" of each jack is a special rolled section of open hearth machinery steel with machine cut teeth. The operating mechanism is simple and rugged in construction, and in each jack the action is positive and quick; the movements are simple and easy.

This company also manufactures a complete line of jacks for general work and has a jack for practically every type of lifting work known.

Catalog No. 106 will be sent to any one upon application to the Duff Manufacturing Company, Pittsburgh, Pennsylvania.

Spiral Lead Plug, manufactured by the Robinson Packer Company, 210 N. Main Street Tulsa, Oklahoma. This plug is designed especially to plug off bottom water where the space in which the plugging has to be done is limited to 8 or 9 inches. The company will supply information upon request.



L. O. Story on Doreco Burner put out by Empire Companies

Members of Purchasing Agents Association of Houston at Logging Camp of Angelina County Lumber Company, near Lufkin, Texas recently.

Hill Clutch Products on Exhibit in New York

Cleveland, Ohio, Dec. 17.—At the third National Exposition of Power and Mechanical Engineering held in New York City, recently, the Hill Clutch Machine and Foundry Company had an interesting exhibit.

The principal products featured were: "Smith Type" Hill friction clutches; "Cleveland Type" collar oiling bearings; "Industrial Type" spur gear speed transformers, and "Steelarm" automatic belt tighteners.

Products of this company are widely used and have gained a good reputation wherever they have been tried.

Government Conference On Oil Shale Development

Washington, D. C., Dec. 15.—The means for future production of oil from government reserves of coal and oil shale is the subject of a conference being held at the interior department by technologists of the navy, the Bureau of Mines and the geological survey. A research program to aid commercial development of processes by which oil may be obtained from oil shales, lignite, and other coal is being planned by the Bureau of Mines. The navy is represented in the conference by Rear Admiral H. H. Rosseau, Commander N. H. Wright, and Lt. Commander W. H. Osgood. The geological survey is represented by Dr. David White, W. T. Thorm, Jr., fuels geologist, and W. H. Bradley, oil geologist. O. P. Hood, chief mechanical engineer in charge of the fuels division of the Bureau of Mines presided.

A report was made upon recent research in foreign countries by A. C. Fieldner, superintendent of the Pittsburgh experiment station of the Bureau of Mines, who has just returned from a trip of inspection through European laboratories and carbonization plants. Reports were also rendered upon recent research in the fuels and petroleum laboratories of the Bureau of Mines.

Field Lighting Equipment

The Pyle-National Company, Chicago, Illinois, has announced Catalogue No. 4, a late book of information about Pyle-O-Lytes for floodlighting.

This catalog describes lighting systems that are especially well suited for oil fields, warehouses, pipe line stations, tank farms, individual drilling rigs, complete leases, refineries, in fact wherever light is needed, this company has a system which will give efficient service.

Catalog No. 4 is for free distribution and will be mailed upon request.

Tulsa Firm to Sell Output Of Texas Gasoline Plant

Tulsa, Okla., Dec. 15.—The Bell Oil and Gas Company of Tulsa has announced that it will take over the sales of the Hope Engineering and Supply Company of Texas. The Hope Company is one of the largest absorption manufacturers in the state of Texas. Its plant located at Breckenridge can handle 30,000,000 cubic feet of gas a day and has an output of five cars of natural gasoline a day, recent additions having brought its daily output to this height.

The Twin Six Oil and Refining Company or Union Refining Company as recently known has been purchased by the Bell Company. The refinery, located at Grandfield, has a capacity of from 3000 to 4000 barrels of crude oil a day. It is located on the Katy and Rock Island railroads, with pipe line connections to the north Texas oil fields.

Venezuelan Oil Exports Show Increased Average

Washington, D. C., Dec. 15.—While exports of crude petroleum from the port of Maracaibo during the months of August and September, 1924, did not reach the record high total of 123,469 metric tons exported during the month of July, the average for the three months was considerably in excess of the previous record of 90,894 metric tons exported during the month of June. The total export of petroleum for the first nine months of this year amounted to 711,653 tons, of which the Caribbean Petroleum Company shipped 375,996 tons, the Venezuelan Oil Concessions, Ltd., 236,752 tons and the British Controlled Oilfields 98,905 tons.

The exports of crude petroleum by the Caribbean Petroleum Company (which operates the Mene Grande field) decreased during August and September, while the exports by the Venezuelan Oil Concession, Ltd., (operating in the La Rosa field) have increased during the same period. This is an interesting result of the change from Mene Grande to La Rosa as the principal field of drilling operations by the Dutch Shell interests, which control both groups. This change has been made because of additional new wells brought in at La Rosa and an interesting three-cornered off-setting operation which has developed there between the three competing companies. This field is by far the busiest one in Venezuela at present. New rigs and derricks are constantly being built and drilling is going on continuously.

Two American companies operating at La Rosa are expected to begin exporting oil from Venezuela shortly, one of them being now on a production basis and bringing in tankers for the shipment of oil.

Bulletins on Byers Pipe

A series of bulletins describing Byers Pipe from raw material to finished product is available from the A. M. Byers Company, 235 Water Street, Pittsburgh, Pennsylvania.

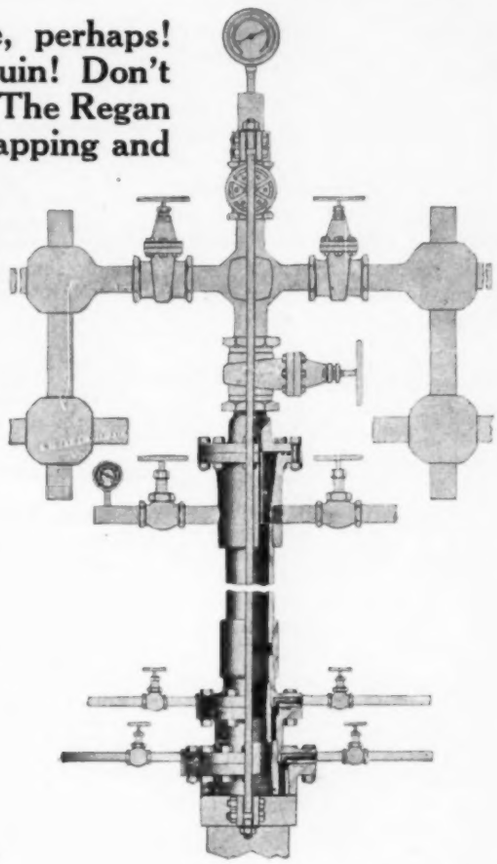
These bulletins are filled with useful information to users of wrought iron pipe and show in great detail the process by which Byers pipe is made.

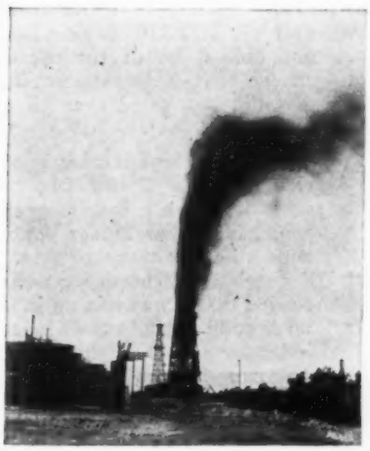
Sufficient illustrative material is included to explain technical processes and to assist the reader in visualizing the methods required to turn out a first class product.

These bulletins will be mailed upon inquiry to any one interested in pipe or having pipe problems to solve.

You'll have no "Wild Wells" if you PREVENT disaster with the *Regan Casing Control Head!*

Fire! Smoke! Danger! Loss of life, perhaps! Loss of thousands of dollars! Maybe ruin! Don't deliberately invite such catastrophes. The Regan Control Head permits of quick, safe capping and entirely removes the hazard of costly blowouts. Nearly 50% of the Santa Fe Springs and Signal Hill wells are protected with Regans. Send for catalog today.





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Government Conference On Oil Shale Development

Tulsa Firm to Sell Output Of Texas Gasoline Plant

Venezuelan Oil Exports Show Increased Average

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if you PREVENT disaster with
the Regan Blowout Preventer

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LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

well cleo hunny I did not git well in time 2 go 2 the api meetin at ft. werth but I hav had sum of the boys cummin back from up their cummin around 2 sea me at the hospistal so I no about as mutch about it as if I hadder gone. yu sea hunny by havin a few fellers tell yu about the api meetin meens that yu will here all that they found out whilst they was sober & pervidin that all of them was not drunk at the same time, yu get a kinder of a connected story sutch as is hard 2 git if yu are on the ground yore ownself.

Now hunny yu must not misunderstand me that I meen that if I was there I wooda got drunk because hunny yu no that I wood not of if I cood a hope it. it is just sometimes that i over estimates mi capasities, but what I meen is that it wood a bin a pretty good chanct of a feller fallin off of the watter wagen at a oil men meeting. & ennyway API meens all present intoxikated. That last werd hunny is french or spanish 1, for drunk.

But enny how I do not kare so verry mutch about missin the meetin on account col. wood & col. peck was not neether 1 of them there. the oldest oil riter there they tell me was holland revis & he was around braggin about bein the oil writer emeretus of the hole shubang, but mi advise threw persernal frends is 2 the effect that he is the oil riter amorous. & him at his age.

1 of the fellers whitch was in 2 sea me was john suman of the rio bravo. he goes 2 all the meetins on account he has a rr pass, but this time he put 1 over on his co. pretty good. yu sea whenever john wants 2 git off 2 go 2 a thing like the api they just lets him hav a few days off & he has 2 pay his own expents munny. well he is just a sniggerin & a laffin this time on account he gotten his expentses on account on the hole trip he was inspectin just 1 leese whitch he says is the longest lease in texas, & not bi meashurements of time. in fack they mesure it in miles, on account it runs from huston 2 dallas & is a strip from 60 feet 2 200 feet wide. & besides that they hav bin holding and payin taxes on it about 50 or 60 yeres & has got it all marked off & a lot of it fensed in. that is just 1 of the jokes whitch john has pulled, only this is the first time this was ever rit down or printed. the least whitch he so laffingly refers 2 cleo is the rite of way of the h&tc rr. it is what yu mite call a shoe string least & looks like a sincht they get oil on it agin, even if it just leaks on it.

well like I sed I am still in the hospital recovverin from mi experentses & gess I am gittin along all rite with the nerse on account she does not seem in no hurry for me 2 leev here. I herd her tellin a frend of mine whitch called up that I was converlesing nisely, whitch means that she likes the way I talk. yu sea hunny I hav 2 kid her along sum on account she is a good kid & loansome in the world on account she has 2 work in the hospistal & be tied down their pretty tite all the time.

but yu need not 2 werry about me none hunny, I am alright & besides I think she is marryed annyway, but she shore has got soft hands & I lie 2 her sumtimes about mi hed herting so she will rub it because it gives her pleasure 2 think that she is doing sumthin speshul for me. that is the kinder guy I am hunny. I alwaze try 2 plees the laddys & giv them all the pleasure I can.

well hunny I gess yu hav herd about wertham bi this time. well I aint herd about nuthin elst. I thort the other day that I ort 2 be keepin mi mind improved whilst I was in the hospistal & sent out & gotten me a hole batch of oil papers 2 reed. well evry 1 of them was all full of wertham. then 1 of mi frends whitch is a ruff neck cum in & sed he was makin tracks for wertham. & then it was a drillin contracter cum in & he sed he was movin a rig 2 wertham. & then it was a oil perduser frend of mine cum in & he sed everything was alright he gessed & the prise of crude mite go up if it was not for wertham. & then it was a refiner frend of mine cum in & he sed it looked like mabe he was goin 2 make sum munny for awhile, if it had not a bin for wertham. & the tank men & the supply men & the pipe men is all tickled 2 deth on account of wertham. Even a little girl I no down the street in a hash house sent me word over the foam by the nerse that she is goin 2 wertham. I am just contrary enuff cleo that I aint goin 2 go 2 no wertham miself no time. ennyhow I am bettin that before they git done with wertham it will be talked plum 2 deth & the hot air that is put out about it will either vaporate the oil or set it on fire.

but that aint neether hear nor their about crismus. Hunny what is yu wants sandy claus 2 put in yore stockin? now don't be bashful about askin for sumthin big because it ort 2 go in alrite, or either if it will not, well it can be put on the floor. & remember hunny that it wont hert me if it costs five or ten dollars on account I hav got me a income comin in now reglar even when I am sick in the hospistal.

hunny yu need not 2 be disappointed because I was not made 2 be the pres. of the api, because mabe the reesen I was not was because I did not go up their, because I gess yu hav notised that they wanted a prominent man from texas on the job this time on account california has bin spendin so mutch munny on rr fare goin 2 the meetins. but I gess old edgar pew will make a pretty good pres. alrite & I am glad they giv it 2 him beins as how I was not able 2 be at the meetin 2 take charge of it & they did not hav no way of tellin if I wood ever git out of the hospistal or not.

but I will be out now in a few days cleo, & mabe I will find time 2 run down 2 sea yu befoar long even if this bein laid up has kinder got me behind with mi work moar or less. the widder where I bordes at was kinder tickled that I was laid up in the hospistal & cood not leev town on account she is kinder scared all the time that I will not cum back when I go away. but when she cum up 2 sea me & seen what kind of a nerse I had she cummensed 2 sayin that she thort it was a waste of mi munny for me 2 be stayin in the hospistal when she cood just as easy look after me at hoam. & then I herd her tellin the nerse that I looked a hole lot difrent & was not quite so hansome when I did not hav bandeges on mi fase. wimmin shore is funny, hunny, & it aint menny men like me that can figger them out. but I am stayin in the hospital hunny on account I do not want 2 be no bother 2 her & let her get no funny noshuns in her hed.

hunny I hav thunk up a great scientitsifick skeem that I am goin 2 work on when I git well, but I am 2 tired now 2 tell yu about it now, so I will write 2 yu about it anuther time unlessen I git 2 cum down 2 sea yu in the between times. it cum in a dreem, hunny, & it was good.

yore lovin paul.

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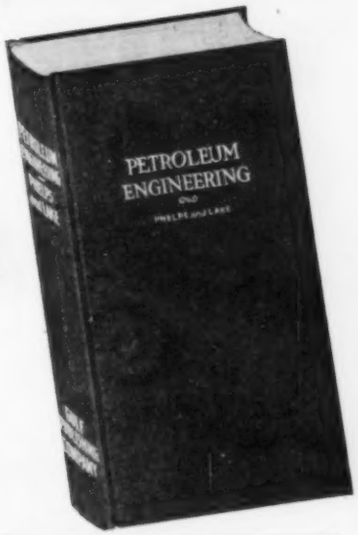

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SQUEAKS from the BULL WHEEL

"My dear," remarked the young husband, "did you ask the milkman why there is never any cream on our milk?"

"Yes, darling, and he explained quite satisfactorily. I think that it is a great credit to him."

"What did he say?"

"That he always fills the jug so full there is no room for cream."

Miss Sweet—When did you decide to break your engagement?

Miss Brier—Just as soon as I read the income tax he paid.

Many business deals are closed on the golf links. A traveling salesman went around in 125, the merchant with him said pleasantly: "You are a little off your usual game."

"No, this is my usual game."

"Well," stated the other, "you may be no golfer, but you're an honest man. I'll just sign that contract you were speaking of."—Exchange.

Cop — You're pinched for speeding.

Copped—What's the big idea? Doesn't that sign say "Fine for speeding?"—Good Roads.

Random Shots

I shot an arrow into the air; it fell in the distance, I knew not where, till a neighbor said that it killed his calf, and I had to pay him six and a half ($6.50) I bought some poison to slay some rats, and a neighbor swore that it killed his cats; and rather than argue across the fence, I paid him four dollars and fifty cents ($4.50). One night I set sailing a toy balloon, and hoped it would soar till it reached the moon; but the candle fell out on a farmer's straw, and he said I must settle or go to law. And that is the way with the random shot; it never hits in the proper spot; and the joke you spring, that you think so smart, may leave a wound in some fellow's heart.—Emporia Gazette.

"I'm getting on at the bank."

"That's fine, dear; but what makes you think so?"

"One of the vice presidents asked me if I worked there."—American Legion Weekly.

In the Cold Gray Dawn

Afraid to breathe, almost, the returned reveler, who had been entertaining an out-of-town Steel buyer, crept quietly into his bed-chamber as the gray dawn was breaking. Sitting on the edge of the bed, he cautiously undid his boots. But, with all his care, his wife stirred in bed, and he presently was all too well aware of a pair of sleepy eyes regarding him over the edge of the sheet.

"Why, Tom," yawned the little woman, "how early you are this morning!"

"Yes, my dear," replied Tom, stifling a groan, "I've got to go to Philadelphia for the firm today."

And replacing his footgear the wretched man dragged his aching limbs out again into the cold and heartless street.—The Shaft.

"Oh, doctor," wildly cried the patient in the alcoholic ward, "I'm dreadfully afflicted! The ghosts of my departed relatives come and perch on the tops of the fence all around my yard when dusk is falling. I can look out into the gloaming any evening and see a couple of dozen spooks sitting on top of the posts, waiting, waiting. What shall I do?"

"Sharpen the tops of the posts," advised the physician.—Curity Comments.

"You say Gerty is in the hospital?"

"Yes; her new beau got excited in a traffic jam and tried to put both hands on the wheel without removing his right arm from her waist."—Youngstown Telegram.

Doctor—Your wife suffers from insomnia? Are there any serious consequences?

Visitor—Yes. When I come home late she is always awake.

"Pop, why was Adam made first?"

"To give him a chance to say a little something, I suppose."—American Legion Weekly.

"What's the difference between a girl and a Victrola?"

"Well, a Victrola runs down."—Stanford Chaparral.

The bride and groom arrived at the swell hotel on their honeymoon. The room they occupied was beautifully furnished with a pair of twin beds. Upon seeing them, the bride immediately began to cry, and the groom said: "Why, dear, what is the matter?"

"Why," said the bride, looking at the twin beds, "I thought we were going to have a room all by ourselves."—The Family Wash.

Flubb—Gimme a cigaret.

Dubb—Why, I thought you told me you had quit.

Flubb—Well, I have reached the first stage. I've quit buying.—Kansas Sour Owl.

"My husband has bought me a beautiful automobile."

"Can you drive?"

"Well, I drove him into buying that."—Boston Transcript.

"Are you sure," asked the old woman, "that this century plant will bloom in a hundred years?"

"Positive, ma'am," answered the florist. "If it doesn't, bring it right back."

"Little man," said the deacon to the small boy, "have you no better way of spending the holy Sabbath afternoon than idling away your time on the front porch?"

"I ain't idlin' away no time. There's a feller inside spoonin' with my sister an' he's payin' me fifty cents an hour to watch for pop and mom."—Ziffs.

"How is it, young man, that I find you kissing my daughter? How is it, I ask you?"

"Great! Great!"—Belle Hop.

"What you need, my dear young lady," Dr. Boggs advised, "is a little sun and air."

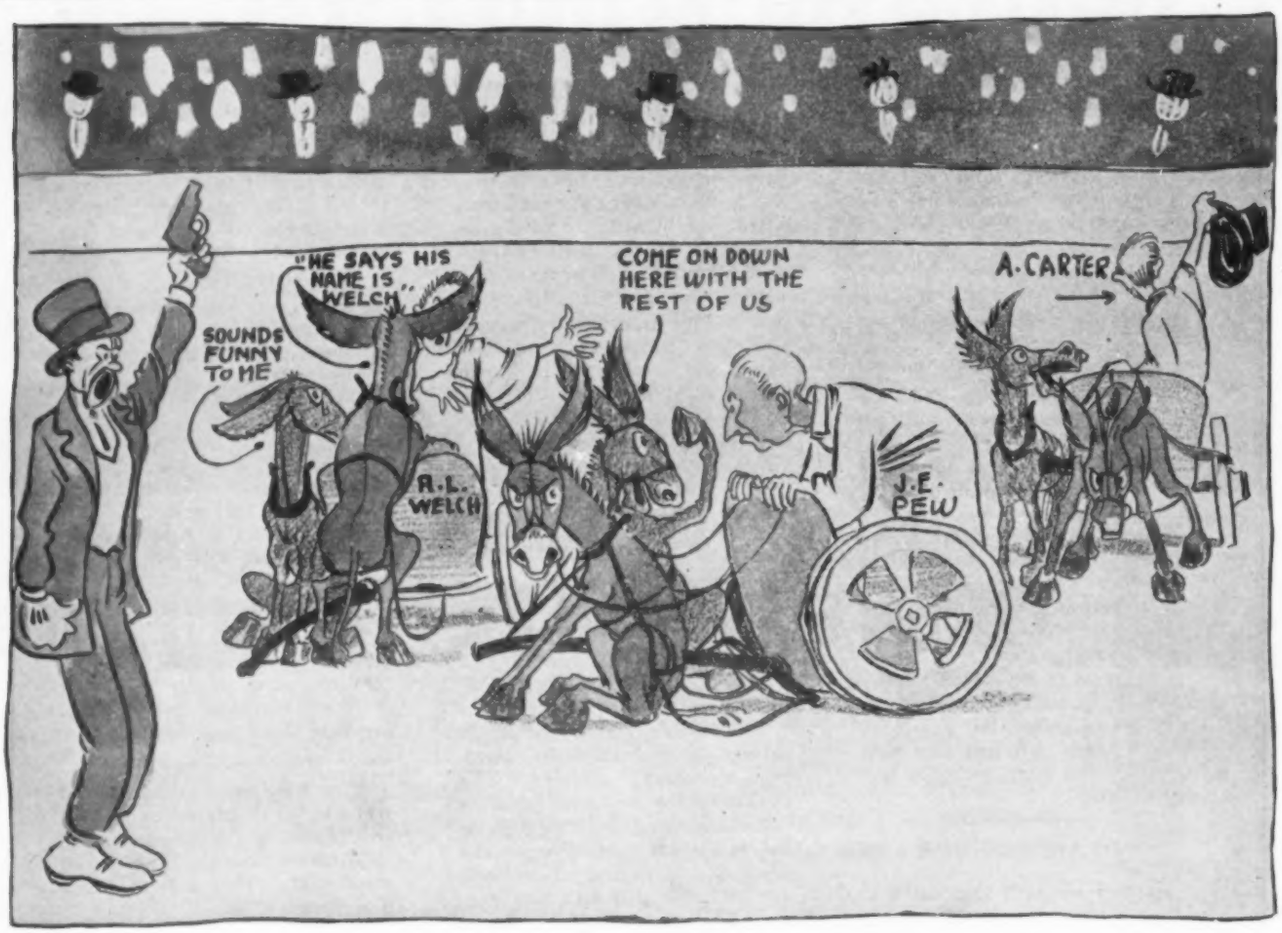
"Why, the very idea! I'm not even married!"—Fig Leaf.

"Remember when we first met in the revolving door at the postoffice?"

"But that wasn't the first time we met."

"Well, that's when we began going around together."—Voice of South High.

COMIC-LITES ON THE A. P. I. SESSION AT FT. WORTH

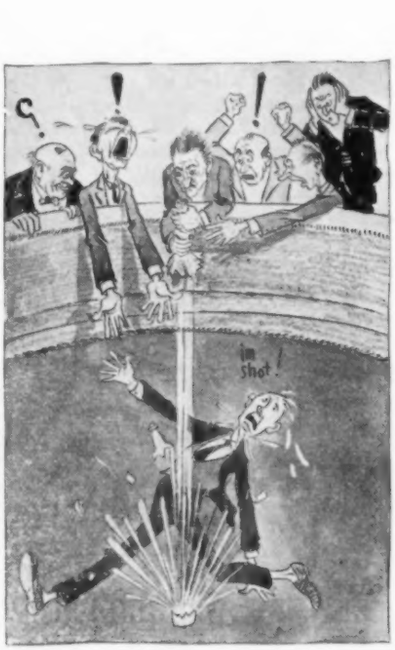


Only the jackasses took it seriously, when J. Edgar Pew, R. L. Welch and Amon G. Carter appeared, a la Ben Hur, in what was listed as a race between decendants of Baalam's saddle amimal.

After expressing disapproval over the meeting place, Henry L. Doherty came down and found Fort Worth a rather fair city after all.

Chief among the duties of B. T. McNeil, vice president of the Swiftsure Petroleum Co., is that of attending conventions. He had a hilarius time until berth 13 stared him in the face on the return trip.

R. L. Dudley arrived a day late carrying two handbags. Said he'd been shooting turkeys in South Texas. None of his friends lost any time picking turkey meat from his teeth.



Before matters had reached the stage of "The Old Oaken Bucket" or "Sweet Adaline", somebody's hand slipped. After that one gang had to be content with just watching the rodeo. Even ginger ale explodes in a bottle, you know.

Theoretical Mechanics of Flowing Wells

(Continued from page 25.)

stallations results. The flowing device must be designed to suit the well to admit enough gas to flow it to capacity and no more, and the flow line must also be correctly proportioned. And further, some means must be provided to start the well flowing.

There is a point in the flow line where well pressure is of no further effect and from that point upward, oil is lifted solely by buoyancy and friction of gas bubbles with oil. We therefore find that a 3,000-foot well with rock pressure of 300 pounds flows even though well pressure is not enough to lift the oil one-third of the way.

The patented flowing device of Figure No. 10, operated by sealing between flow line and casing at the surface, has a skirt, S, fitting the well bore rather closely, but not sealing. The holes H form a gas inlet around the circumference into the flow line. This device has an operating principle that is unique. Being set underneath the oil surface, gas liberated from the sand travels upward between casing and flow line and pockets under the skirt. The flow line being open at the top, and the annular space closed, pressure builds up in the annular space equivalent to well pressure. The gas content of the skirt being under this pressure, and the holes being at the top, gas travels into the flow line through the holes by pressure and buoyancy and when this amount of gas is sufficient to decrease the weight of oil column in flow line to a point lower than well pressure, the column is lifted and the well begins to flow. This device works under the conditions that it must be installed below the oil surface and that the column pressure of oil above must have a definite proportion to well pressure.

Trial and Error

When the well does not start flowing, the device may be set high to start the well, then lowered and blowing successive heads of oil off until it is in position with the end of flow line near bottom. If the flow stops for any reason, the process must be repeated, although, a small swab will start the well flowing equally as well.

And the gas holes must be proportioned to the well.

The flowing device consisting of several pipe couplings, Figure 11, operates by closing between flow line and casing at the top, when gas accumulating in this space unbalances the columns inside and outside of flow line as at A. Gas then flows into the inlet holes of the special couplings and lifts oil out of flow line down to that point, as shown at B. Immediately the column pressure inside is removed, the next lower gas inlet hole in the next coupling below come into action, and the oil column is successively lifted until the flow line and casing are evacuated of the starting oil content and the well continues to flow. But, after that, gas admitted into the couplings above bottom is a waste, since, if oil is lifted off of bottom by gas and up to a point out of the influence of well pressure, the gas will continue lifting oil to the surface without any addition. These also must be proportioned to the well.

The flowing device, Figure 12, which is of the writer's design, is for lifting off successive heads of oil by admitting gas at succeeding intervals down the casing. This is an adaptation of the old method of starting air lift wells by placing a cock in the flow line underneath the oil level, then blowing off the head through that cock to that point, when the pressure required to blow off the remaining head to bottom is less, because the upper portion of the oil column is removed. The cock is closed by a wire line. This was done to avoid the necessity of using a high pressure compressor, and also to avoid blowing oil from the well in question to and out through a neighboring well, without starting the well intended.

As shown a small balanced valve is operated by an annular float. When the oil column is above the float, the valve is open and the two columns equal. The float is several feet above the valve. As pressure builds up in the casing, the uppermost valve is uncovered by oil depressed by pressure and gas travels in through the gas port, lifting the oil column in the flow line. The skirt, S, initially filled with oil, drains slowly through the holes H so that the next oil port in the skirt next below has time to get into action before the first port is closed by weight of attached float sinking as its floating oil drains out.

Successive heads are thus blown off and the inlet ports successively closed, until bottom is reached, and the well continues to flow without undue waste of gas, and the float operated valves automatically prevent oil from rising too high in the annular space between flow line and casing and thereby adding too much back pressure to the well.

Success Possible

The same device operates successfully using air, without high starting pressure, when correctly proportioned.

These are a few of the attempts made along the lines of making wells flow longer. When these devices are worked out to such point that they may be applied correctly to any well exactly for that well, so that they can be used with uniform results, the writer believes that some method of securing greater gas duty, and at the same time, of maintaining pressure in the sand, will come into general use.

Withdrawals of gas and reduction of pressure on the sand continuing, the field reaches a stage where there is not enough gas nor pressure to make the wells flow, and, although the gas content and its energy may be 75 per cent exhausted, the oil content may not be 15 per cent exhausted. "The head is off" is applied to every field at some stage of production; we find in every case that gas is always exhausted years before the oil, in fact, no field has yet been completely evacuated of oil, and, while this condition may not be prevented, still the evil day may be put off.

The reduction of pressure is at the locality of greatest withdrawal, where wells are drilled first and, most usually, thickest. A distant part of the field may still flow for weeks or months, due to slow propagation of pressure reduction, until the pressure of gas in them is also lowered to the non-flowing stage, when the pressure gradually equalizes and becomes uniform over the field.

Competitive production usually found in every field makes it out of place to say that wells should be restricted in oil production to secure greater duty of gas; it is generally assumed that production must be decreased to secure additional gas duty and to secure a greater percentage of recovery ultimately. But the writer has found from his own experience, in adjusting the size of flow line from time to time for maintaining flow, that it is not necessary to restrict production, but, as a matter of fact, that production can be maintained while at the same time sand pressure is not uselessly dissipated. There are other conditions that require restriction of flow, many of them, as for instance, a well may drill itself into water if opened wide; high velocity of oil and gas with or without sand may cave the well wall, or do other damage to well or casing or strainer, but when these have been served, we still have the problem of producing the same daily quantity or more, but saving gas and pressure, and applying it over a longer period to prolong the flush period.

The main difficulty is competition; we all know that too well. But there are some fields that are not restricted in any way by competitive drilling; these fields in particular are subject to constructive work along the lines of this paper. The new field at Big Lake is one of this class; the very best opportunity is afforded by this field toward securing a percentage and ultimate recovery higher than ever before, from any field of similar structural nature, at the lowest lifting cost.

It is natural that wells cease flowing; wells cannot flow forever; but, at the time the head goes off, and we have some work to do and much expense, we may remember that we were prodigal in the use of gas, whether compelled by competition across the line or not.

Boud E. Hannon, until about two months ago chief engineer in the lubricant department of The Texas Company in the Chicago territory, is now a resident of Los Angeles and holds a similar position with the General Petroleum Corporation.

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The Brownell Co.
De La Vergne Machine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering Co.
Lucey Mfg. Corp.
Lufkin Foundry & Machine Co.
The National Supply Cos.
National Transit Pump & Machine Company.
Oil Well Supply Co.
Peden Iron & Steel Company
Republic Supply Company
Rock Island Plow Co.
Southern Engine & Pump Co.
Titusville Iron Works
Western Machinery Company

Engineers—
David Donoghue
Foster & Reiter
Hope Engineering & Supply Co.
Lee C. Moore & Co.
Oil Conservation Engineering Co.
D. T. Ring

Fire Protection—
Continental Supply Company
Oil Conservation Engineering Co.

Fish Tail Bits—
Continental Supply Company
Frick-Reid Supply Company
Gulf Coast Mach. & Sup. Co.
Lucey Manufacturing Corp.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
W-K-M Co.

Floor Circle Brace—
Continental Supply Company
Dunn Mfg. Co.

Fuel Oil—
Gulf Refining Company
Sinclair Refining Company

Gas Engines—
S. M. Jones Company

Gas Traps—
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Gasoline Extraction Compressors—
Bessemer Gas Engine Co.
Continental Supply Company
Hope Engineering & Supply Co.
Sullivan Machinery Co.

Gasoline and Oil Storage Tanks—
Butler Mfg. Co.
Graver Corporation
Continental Supply Company
Kansas City Struct. Steel Co.
Parkersburg Rig & Reel Co.

Gauges—
Continental Supply Company
Oil Conservation Engineering Co.

Generators—
R-F Electrical Mfg. Co.

Genuine Wrought Iron Casing—
Reading Iron Co.
Superior Tube Co.

Geologists—
Alexander Deussen
David Donoghue
Edwin B. Hopkins
Foster & Reiter
Heath M. Robinson

Grips and Clamps—
Continental Supply Company
J. P. Ratigan
W-K-M Co.

Heat Exchangers—
Brown Welding & Machine Co.
Hope Engineering & Supply Co.

Hoists—
Alamo Iron Works
Emsco Steel Products Co.

Hose—
Continental Supply Company
D. F. Connolly Agency

Houses—
Crain Ready-Cut House Co.

Laboratory Equipment—
Continental Supply Company
Fort Worth Laboratories

Lapwelded Steel Boiler Tubes—
The Tyler Tube & Pipe Co.

Lighting Systems—
Bridgeport Machine Co.
Continental Supply Company
R-F Electrical Mfg. Co.
Westinghouse Elec. & Mfg. Co.

Line Pipe—
Continental Supply Company
Republic Supply Co.
Reading Iron Co.
Superior Tube Co.

Lumber—
Robertson-McDonald Lumber Co.

Manufacturers—
Robinson Packer Co.

Maps—
Heydrick Mapping Co.

Meters—
Continental Supply Company

Motors—
Twin City Company
Westinghouse Elec. & Mfg. Co.

Oil Field Supplies—
Bridgeport Machine Co.
Butler Mfg. Co.
Continental Supply Company
D. F. Connolly Agency
The Cunningham Company
Frick-Reid Supply Co.
Graver Corporation
Gulf Coast Mach. & Sup. Co.
Erle P. Halliburton
International Supply Company
Kansas City Struct. Steel Co.
Lee C. Moore & Co.
Lucey Manufacturing Corp.
The National Supply Cos.
Oil Well Supply Company
Parkersburg Rig & Reel Co.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Regan Forge & Engineering Co.
Robinson Packer Co.
Smith Separator Company
Southern Brass Mfg. & Plating Co.
Superior Tube Co.
United Iron Works, Inc.
W-K-M Co.

GUIDE FOR PURCHASERS—Continued

Oilwell Casing—
Continental Supply Company
Frick-Reid Supply Company
Republic Supply Company
Superior Tube Co.

Oil Well Cementing—
Erle P. Halliburton

Oil Well Shooting—
U. S. Torpedo Co.

Overshots—
Baash-Ross Tool Company
Continental Supply Company
LeBus Rotary Tool Works

Packers—
Continental Supply Company
The Guiberson Corp.
Layne & Bowler
Robinson Packer Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Rhodes Master Packing Co.
W-K-M Co.

Packing—
Continental Supply Company
D. F. Connolly Agency
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Pelican Well Tool & Sup. Co.
Republic Supply Company
Rhodes Master Packing Co.

Paints—
Continental Supply Company
Peden Iron & Steel Co.

Panel Boards—
Westinghouse Elec. & Mfg. Co.

Patents—
Hardway & Cathey
Jack A. Schley
Jesse R. Stone

Pipe Grips—
Continental Supply Company
W-K-M Co.

Pipe—
A. M. Byers Co.
Continental Supply Company
W. E. Detlor
Frick-Reid Supply Co.
F. W. Heitmann Co.
Harrisburg Pipe & Pipe Bending Company
International Supply Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Co.
Reading Iron Co.
Republic Supply Company
Superior Tube Company
Williamsport Wire Rope Co.

Pipe Screwing Machines—
Buckeye Traction Ditcher Co.
California Pipe Line Machine Co.

Pipe Threading Machine—
Standard Engineering Company

Pipe Wrenches—
Continental Supply Company
Dunn Mfg. Co.
The Guiberson Corp.
LeBus Rotary Tool Works
Republic Supply Company

Portable Buildings—
Butler Mfg. Co.
International Derrick & Equipment Company

Portable Compressors—
Continental Supply Company
Sullivan Machinery Co.

Portable Drilling Rigs—
Bridgeport Machinery Co.
Continental Supply Company
Lee C. Moore & Co.
Oil Well Service Co.
Parkersburg Rig & Reel Co.
The National Supply Cos.

Pulleys—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co.

Pulling Machines—
Clark Machine Co.
Continental Supply Company
Iron King Mfg. Co.
Safety Pulling Machine Co.

Pumps—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Frick-Reid Supply Co.
Gaso Pump & Burner Mfg. Co.
Goulds Manufacturing Co.
Lucey Manufacturing Corp.
National Transit Pump & Mach. Co.
Oil Well Supply Co.
Pelican Well Tool & Supply Co.
Republic Supply Company
The Reschke Machine Works Co.
Southern Engine & Pump Co.
Texas Oil Pump Co.
United Iron Works, Inc.

Pumping Powers—
Continental Supply Company
Frick-Reed Supply Co.
International Supply Company
Jensen Bros. Mfg. Co.
Kansas City Hay Press Co.

Refined Products—
Gulf Refining Company
Humble Oil & Refining Co.
Sinclair Refining Co.

Recorders—
Fort Worth Laboratories

Refinery Equipment—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation
Kansas City Struct. Steel Co.
Oil Conservation Engineering Co.
Republic Supply Company
Smith Separator Company
Titusville Iron Works
United Iron Works, Inc.
Wyatt Metal & Boiler Works

Refined Products—
Magnolia Petroleum Company
Texas Company

Rig Irons—
Continental Supply Company
International Supply Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Company

Rotaries—
International Supply Company

Rotary Rock Bits—
Continental Supply Company
Hughes Tool Co.

Rotary Fish Tail Bits—
Continental Supply Company
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Separators—
Butler Mfg. Co.
Continental Supply Company
Smith Separator Company
Trumble Gas Trap Co.

Structural Steel—
Butler Mfg. Co.
Kansas City Struct. Steel Co
United Iron Works, Inc.

Steel Derricks—
Continental Supply Company
Emsco Steel Products Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Superior Tube Co.

Steel Crown Blocks—
Continental Supply Company
Gulf Coast Mach. & Sup. Co.
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Steel Manufacturers—
Colonial Steel Co.

Steel Storage Tanks—
Butler Mfg. Co.
Continental Supply Company
Graver Corporation

Sucker Rod Lines—
D. F. Connolly Agency
Continental Supply Company

Sucker Rod Elevators—
The Cunningham Co.

Strainers—
Continental Supply Company
Emsco Steel Products Company
Layne & Bowler Co.
J. H. McEvoy & Co.
Pelican Well Tool & Supply Co.
W-K-M Co.

Sucker Rod Hooks—
The Cunningham Co.

Sucker Rod Sockets—
Bradford Motor Works
Continental Supply Company
The Cunningham Co.
Brown Welding & Machine Co.

Sucker Rods—
Axelson Machine Co.
Columbus Sucker Rod Co.
Continental Supply Company
D. & B. Pump & Sup. Co.
Dunn Mfg. Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Cos.
Oil Well Supply Company
J. P. Ratigan
Republic Supply Company

Swabs—
Continental Supply Company
The Cunningham Co.

Tank Bolts—
Continental Supply Company

Tanks—
American Tank Co.
Butler Mfg. Co.
Black, Sivalls & Bryson
Columbian Steel Tank Co.
Continental Supply Company
The Brownell Co.
Gantz Tank Co.
Graver Corporation
Kansas City Structural Steel Co.
Maloney Tank Co.
Parkersburg Rig & Reel Co.
Petroleum Iron Works
United Iron Works
Wyatt Metal & Boiler Works

Tank Deadwood—
Robertson-McDonald Lumber Co.

Tank Equipment—
Continental Supply Company
Oil Conservation Engineering Co.

Temper Screws—
Burns Tool Co.

Thermometers—
Continental Supply Company
Fort Worth Laboratories

Timbers—
Robertson-MacDonald Lumber Co.

Tongs—
Bridgeport Machine Co.
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.
LeBus Rotary Tool Works
Pelican Well Tool & Supply Co.
Wilson & Willard Mfg. Co.
W-K-M Co.

Tool Joints—
American Well & Pros. Co.
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Bridgeport Machine Co.
Continental Supply Company
Emsco Steel Products Co.
Hughes Tool Co.
Pelican Well Tool & Sup. Co.
Regan Forge & Engineering Co.
Republic Supply Co.
W-K-M Co.

Tools (Fishing and Drilling)—
Bridgeport Machine Co.
Brown Welding & Machine Co.
Continental Supply Company
Frick-Reid Supply Co.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Pelican Well Tool & Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
Star Drilling Machine Co.
Sullivan Machinery Co.
W-K-M Co.

Toothless Slips—
LeBus Rotary Tool Works

Tractor Winch—
Rock Island Plow Co.
Twin City Company

Traveling Blocks—
Baash-Ross Tool Company
Boykin Machinery & Sup. Co.
Continental Supply Company
Gulf Coast Machine & Sup. Co.
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

Tret-O-Lite—
W. S. Barnickel & Co.

Tubing Catcher—
Continental Supply Company
Dunn Mfg. Co.
Guiberson Corp.

Tubing Lines—
Continental Supply Company
D. F. Connolly Agency

Tubing—
Continental Supply Company
Republic Supply Company
Reading Iron Co.
Superior Tube Co.

Underreamers—
Bridgeport Machine Co.
Continental Supply Company
Wilson & Willard Mfg. Co.

Vacuum Pumps—
Continental Supply Company
Sullivan Machinery Co.

Valves—
Bradford Motor Works
Continental Supply Company
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Texas Oil Pump Co.
Ludlow Valve Mfg. Co.
Oil Conservation Engineering Co.
The Wm. Powell Co.
Pratt & Cady
Reading Steel Casting Co.
Reading Valve & Fittings Co.
Smith Separator Company
Sour Lake Machine Co.
Southern Brass Mfg. & Plating Co.
Westcott Valve Mfg. Co.
W-K-M Co.

Valves and Fittings—
Continental Supply Company
Darling Valve & Mfg. Co.
D. & B. Pump & Sup. Co.
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Co.
The Wm. Powell Company
Pittsburgh Reinforced Brazing and Machine Company
Pratt & Cady
Republic Supply Company
Reading Steel Casting Co.
Reading Valve & Fittings Co.
United Iron Works
W-K-M Co.

Walking Beams—
Continental Supply Company
International Derrick & Equipment Company
Lee C. Moore & Co., Inc.

Welding and Cutting Equipment—
Continental Supply Company

Working Barrels—
Axelson Machine Co.
Bradford Motor Works
Continental Supply Company
D. & B. Pump & Sup. Co.
Republic Supply Company
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Co.
Texas Oil Pump Co.

Water Gauges—
Continental Supply Company

Water Cans—
Continental Supply Company
H. P. Gott Mfg. Co.

Wire Rope—
American Cable Co.
Bridgeport Machine Co.
D. F. Connolly Agency
Continental Supply Company
International Supply Co.
Regan Forge & Engineering Co.
Republic Supply Company
The National Supply Cos.
Williamsport Wire Rope Co.

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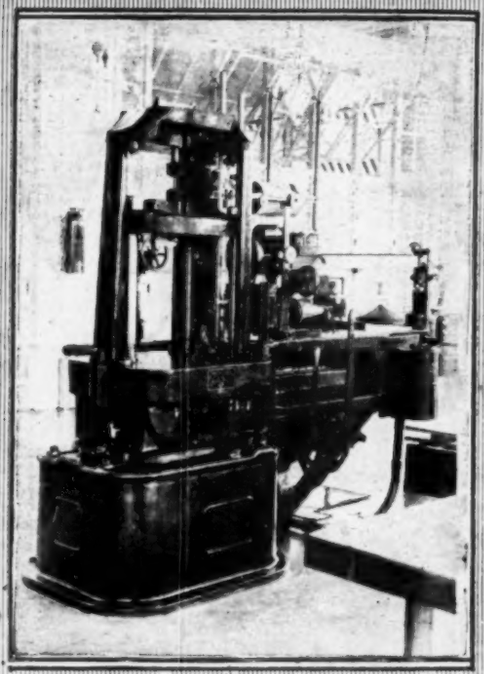

Olsen Automatic and Autographic Universal Testing Machine

Used in Testing Steel

Part of Laboratory Equipment of Hughes Tool Co.

This 150,000-lb. capacity machine tests a specimen in tension or compression and automatically records the details of the test. The specimen is "stretched," the amount of load being automatically balanced on the scale beam. A chart showing the relation between the amount of "stretch," and the load producing same is drawn on the drum as the test progresses.

When a tool joint is loaded sufficiently so as to be permanently deformed it loses its usefulness. This machine determines the amount of load a steel will stand without taking a permanent set, or deformation. Steel used in Hughes Acme Tool Joints must meet a certain specific requirement on this basis before same is accepted from mill.

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